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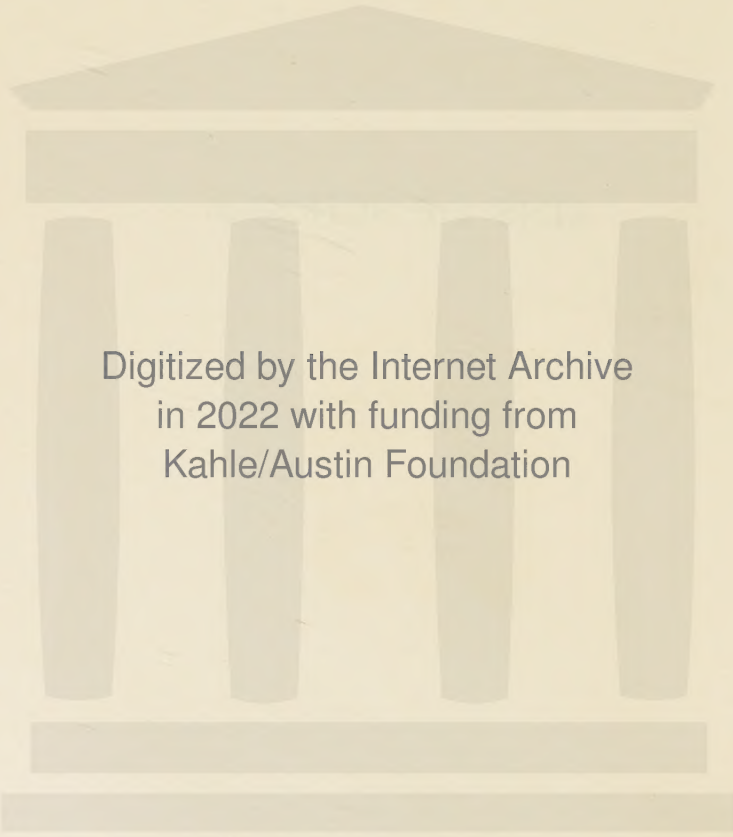
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SINS OF SCIENCE



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SINS OF SCIENCE

BY
SCUDDER KLYCE

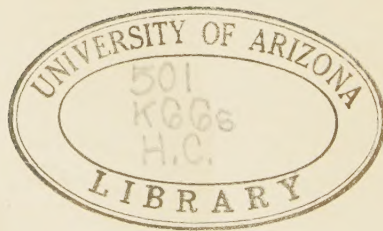


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PREFACE

THIS book shows the basic facts of life from all the usual aspects, especially those of success and happiness.

It agrees with the views of the commonsense man—the “average” man, or the common man. It disagrees flatly with the general views of nearly all our scientists, theologians, and other “intellectuals”. It shows definitely that the intellectuals are wrong about fundamentals. Of course, much of orthodox science and theology is correct. I show which part is, and show that that correct part is actually obtained by following the sound views of the average man, which the intellectuals verbally repudiate.

Over three years ago, after a dozen years of work on it, I published a somewhat technical book on fundamentals, entitled *Universe*. It contained approving Introductions by David Starr Jordan and John Dewey, two of our leading scientists and educators. E.g., Dewey speaks of *Universe* as “remarkable, noteworthy”, and as having “extraordinary value”; and Jordan, as “unique”, “daring”, “successful”.

This book is much clearer, and more entertaining, than that former one. Also, *Universe* is about three times as long. So the reader who wants more details, and further proof of points in this book, is referred to *Universe* (price \$2.20 postpaid, from me, Winchester, Mass.).

I took it for granted in *Universe* that our intellectual leaders would welcome a statement of sound fundamentals, in which their mistakes were incidentally pointed out in a friendly, cooperative spirit. I found that I was mistaken. I found that intellectual leaders (especially scientists) are about as dogmatic and closed-minded now as they have been in the past. Most of them dislike considering their mistakes—which is quite human.

As our intellectuals decline to correct their errors, the only effective means remaining by which we may protect ourselves, and especially our children, against being misled,

is to attack those errors, and discredit the men who persist in teaching them. I do so in this book—attack the errors we commonly call materialism and agnosticism. I hope that the way in which I have done so will entertain and gratify you as much as it has me.

It probably will be useful to the reader to learn that I am a navy officer (official title omitted here, as I prefer the simple *Mr.*); married; children; was born 1879 in Friendship, a little town in Tennessee near the Mississippi; father a physician; all ancestors I know of were in this country before the Revolution; graduated Naval Academy 1902; was retired from active service in 1912 for physical defect acquired in line of duty. For some years I had various executive or managing jobs, service in two "campaigns" (Spanish and Philippine), technical work in several kinds of engineering, and a postgraduate course in engineering. I was once offered a job as professor (in electricity), but declined it.

When I started systematically studying fundamentals fifteen years ago, I suppose I was somewhat prejudiced in favor of scientists, although I am conscious of no special prejudices for or against anybody. At present, scientists usually in effect hold that I am a damned philosopher; philosophers, that I am a damned scientist and what most theologians consider me to be is apparently unspeakable.

And that wrath is visited upon me simply because I state plainly, and prove the soundness of, the basic views held by the average, commonsense man—which is the sort of man I judge I am, or at least hope I am. Like the average man, I am conservative—am cautious, moderate, and middle-of-the-road in all my views. I shall show that intellectuals are nearly all radicals—hold extreme, immoderate, unworkable ideas in one way or another.

Our orthodox intellectual leaders do not approve the conservative, age-old principles we common men live by.

S. KLYCE.

WINCHESTER, MASSACHUSETTS.

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SINS OF SCIENCE

PART I

FUNDAMENTALS IN GENERAL

CHAPTER I

POINT OF VIEW

§1

PEOPLE nowadays are wondering what is the bottom truth about life—about religion, and science, and business, and government. Some admit to themselves that they are often uncertain about those fundamental matters, and as a result sometimes are hesitating and troubled. And some try to eat, drink, hurry and be merry, in an effort to forget that they are without a sure aim and steady purpose.

I had such a modern experience. For fifteen or twenty years I was getting a scientific education and applying it, working among men in various countries. I became increasingly puzzled over what it was all about, and what it was all for. I had made the mistake of listening to scientists' and theologians' attempts to explain. If I hadn't listened, I should have been all right. But I didn't know that—until after I had listened. And the more I listened, the more troubled and confused I grew.

Finally I got a chance to dig into fundamentals for myself, to get the real truth. For the last fifteen years I have been doing that. It took me only two or three years to find the essentials in a way that satisfied *me*—gave me general happiness and content. But there were so many surprising features about such truth, that for several reasons I kept on studying it.

First, I wanted to be sure that there wasn't some "catch" about it all. I wanted to be sure that I wasn't fooling myself, like the usual "intellectual" or scholar.

So to begin with, I steadily applied the solution I had

found to all the problems of *why* and *how* in current science, religion, and philosophy—to see if it would solve such details. As far as I could see, it did—easily and luminously.

I spent some years discussing it with various authorities, finding out how to express it intelligibly to them; and then between 1914 and 1921 wrote a number of versions of the solution (which finally turned into a lengthy book, *Universe*), to see if the solution convinced professional specialists as it did me. I found that every time I could get one to pay attention to the solution it convinced him.

In those ways I have become unshakably certain that I *know* the *fundamental* truth. I may make mistakes in minor details, and often do; and I may be awkward and even obscure in stating that truth, and sometimes am. But I am absolutely sure of all essentials.

Early in my search the unexpected fact appeared, that although our intellectuals are uncertain or agnostic (theologians assert “mysteries”—which amounts to agnosticism), yet many men in the past had been very sure that they had found the truth, and a number of them had correctly stated it rather intelligibly. I found that there was no slightest difficulty about *seeing* the truth. It would, indeed, be hard to avoid seeing it. The difficulty lay in *expressing* it either self-consistently, or intelligibly to others.

The most surprising fact of all was that the average man knows the truth, and is happy and successful in the degree in which he manages to use it confidently; but that the more he consciously tries to think or talk about it the more bewildered he usually gets.

In fact, the man in the past who most surely knew the truth and most clearly stated it, he whom we call Christ, repeatedly said in effect that he was unable to state it intelligibly—that some saying was for those who could receive it, or for those with understanding. And nowadays, our leaders are more and more definitely asserting that ultimate truth can not be stated self-consistently, or intelligibly, or verifiably. They often go so far as to declare

that nobody knows anything about such matters, and to deny in a sour-grapes way any interest in them. Yet in so far as we fail to know and *use* essential truth, in that degree we are wrong, and hence unhappy and failures.

So my chief reason for continuing years to concern myself with fundamentals was partly the selfish one that the verbal difficulty was an interesting "dare" to all my ingenuity; and partly the unselfish one that the matter was of importance to everyone, and because the intellectuals labeled it "impossible", somebody ought to keep trying to work it out.

My final reason for keeping at fundamentals, slowly developed as I went along. Like the average man, I had taken it as a matter of course that our professional intellectuals, especially the scientists who are now our usually accepted leaders in thought, would eagerly welcome anything I could find. So I offered them my discoveries as I made them—actually they were *rediscoveries*. But the average intellectual wasn't interested. For years I thought it was because my statement of facts and proofs was crude and clumsy; so I struggled harder and harder to make my statement clear and acceptable to the intellectual.

Even when I published *Universe* in 1921 I still took it for granted that scientists would regret, as I did, that for certain reasons they had fallen into the errors of agnosticism and materialism, and would be eagerly glad to accept as their own the rigorous detailed corrections of those errors which I offered in all friendliness and humble diffidence, and which I showed had been offered by various scientists in the past.

As I was sure of the general soundness of that book, it gradually dawned upon me as I dealt with more and more of the intellectuals, that they, especially the dominant scientists, often were not interested in the truth, but insisted upon continuing to mislead mankind by teaching the fundamental errors of agnosticism and materialism—or what in a former day was called infidelity, atheism, paganism, and polytheism.

In fact, in 1924, J. McKeen Cattell, a prominent psychologist, informed me in his capacity of president of the American Association for the Advancement of Science and also editor of its official journal *Science*, that the truth I had found (as summarized in an article) was not in the scope of science, but was philosophy, and that most scientists were not interested in it.

In pertinent places below I shall quote other authoritative scientists to that general effect, thus showing that Cattell's view is typical. In broad proof that it is, the authoritative *Encyclopaedia Britannica* states in its article *Science* (XXIV, 402-3), that science does not know what is "reality" or truth, and is not concerned with such matters.

Thus during the past three or four years I became even more interested in finding out why our scientists are rather closed-minded, false prophets, and how they manage to fool people—themselves worst of all. I found out those things, and shall show them.

And I became slowly and deeply disgusted with those false leaders, that they should refuse to concern themselves with the real meaning of their doctrines, but should continue in such admitted ignorance or agnosticism, and blatant unconcern, to mislead men by teaching wrong, destructive essentials.

I became steadily more determined to show clearly the error and positive viciousness of scientific materialism and agnosticism, so that we could protect ourselves, and especially our children, against scientists who persisted in such orthodox views.

Of course, not all intellectuals are such false leaders. There are a few exceptions. And of course, the scientists are not wholly wrong. They are wrong in fundamentals—in principles, or essentials. We shall see that their detailed discoveries are largely correct, and are highly useful when applied with sound commonsense—applied with the sound basic views held by the common man.

§2

So this book is unavoidably novel in several ways:-

(1) It states the answer to the bottom riddle of the universe—states what essential truth or religion really is.

(2) It shows that the commonsense man practically knows the answer—and always has, since there have been men.

(3) It shows that the real difficulty about essential truth is that the professional teachers of it, the so-called experts, have been tangled up in words. Hence, the book, surprisingly, needs only to show what we common men already know practically:- how words work.

(4) Because nearly all our leaders have held the riddle of the universe to be impossible of solution, I have become so interested in stating it clearly that I shan't be able (and won't try) to avoid displaying my interest hereafter. And such love of one's job is unfashionable, and hence novel, in this day of scientific detachment, disinterestedness, and cold-blooded neutrality or "objectiveness".

(5) Finally, our intellectuals are teaching basic error, and (refusing to concern themselves with the whole truth) are leading trusting laymen, especially unprotected children, towards destruction. And I am strongly desirous of showing that error clearly, so that we can avoid its perverted teachers and protect our children.

Some of those novelties can not, in the nature of things, be eliminated. And it would be dishonest to disguise my "unscientific" attitude of being interested—even if I could. And I don't want to, as the "scientific" attitude is perniciously wrong—as I shall show (especially in Chap. 30 §4).

So I inform the reader of my attitude, and ask him to take account of it, and judge the matter for himself on the evidence I shall present. As already mentioned, the lay reader knows the *essential* truth far better than do the experts. So he naturally is more competent to judge it.

Further, the first thing for us to do in getting at truth is to notice how to use words properly.

That first thing seems paradoxical. For the common-sense man has always insisted on regarding the "letter of the law" as a minor matter. And he has been right. The reason he had to insist on that, was because the intellectuals have persisted in exaggerating the "letter"—words—to the extent of idolatry.

Words are a tool—a means of expressing truth. The experts have mistaken them for truth itself. So we first have to find the real nature of that tool; because the intellectuals don't know, and have guessed wrong that words are really truth.

The prospect of observing words may raise school-day memories of the horrors of grammar. I still recall the pain of grammar, and even yet retain the resulting wish to smash its rules whenever I think I can get away with it.

But our instinctive dislike of grammar is one fact showing that we were born with commonsense. For orthodox grammar gets no intelligible conclusion. It never sums to any real meaning. It fails to understand how words do work. Indeed, twenty centuries ago the rhetoricians or grammarians were the scientists of that day. They tried to get at the nature of truth by examining its tool of expression:— words. They failed, for precisely the same reasons that the scientists of today have failed. Our grammar and rhetoric are the messy ruins of that failure. So of course we don't like grammar if we have good sense.

Fifty to a hundred years ago modern scientists intuitively began to investigate that language tool again—this time in the form or guise of the words or "symbols" called mathematics. Essentially, mathematics is the *formal language* used by science—used explicitly by exact or mathematical scientists, and indirectly by inexact scientists, and still more indirectly or remotely by us all.

Or, mathematics is simply our most careful and explicit language—the final formal standard of definite expression, with which we compare other language. Nowadays, authorities are practically agreed on that. So our observa-

tion of words will also be definitely an investigation of the principles of mathematics.

Once more most of us have painful memories of school-day horrors, and a natural reluctance even to look at mathematics again. And once more that is evidence that we knew the commonsense truth, and were fighting against the fundamental folly of orthodox mathematics.

What we shall see about language or grammar or mathematics will be sound, and hence intelligible; and will have obvious usefulness. Such a discussion of it will revive none of the horrors we remember.

Yet, after all, language is a tool, a means to an end; and is not the interesting, desired end itself. It is not the truth itself. So language is not *of itself* directly enjoyable and desirable and entertaining, except as any other tool may sometimes be. We emphatically ought not to get interested in language as something *essential*. Orthodox mathematical science does—and falls into the foolish belief that language or mathematics itself is truth.

But we unavoidably have to do the preparatory drudgery of examining language—of first making our tool, before we can have it and use it.

Two things will cheer us in going through that task:—We shall see how and why we were right in disliking that orthodox school work, and shall no longer be troubled by its memories. And we shall learn how to protect our children from those horrors, and the waste of life nobody could save us from.

In this Part I, therefore, we see how words work, and agree on how we shall use them.

Then in Part II we apply that, or *use* language, by describing the universe in terms of matter or “physics”, in terms of life, and in terms of mind.

In Part III those facts are summed up as religion—as the achievement of success and happiness, spiritual and material.

CHAPTER II

NATURE OF WORDS AND LANGUAGE

§1

A WORD is fundamentally a gesture—*usually* (1) a movement of vocal muscles, or (2) a movement of muscles in making written or printed marks. The ‘speaker’ first moves in some way, so as to attract the ‘hearer’s’ attention; and then makes some further movement to *point out* to his ‘hearer’ whatever it is that he *means*. That total movement or gesture conveys the meaning to the ‘hearer’. I.e., the gesture or word causes the ‘hearer’ to look at some part, or all, of what actually exists around him, and (to whatever extent the word is effective, or “works”) he then *sees for himself* what is meant. The “word” doesn’t *mean* it, but simply calls attention to it, or points it out. E.g., a hen *says* “food” to her chickens by clucking and pecking at the food. The food itself *means* food.

All the principles of words are given in that simple paragraph. An understanding of it constitutes an understanding of all the essentials of language, or logic, or mathematics, or of what the philosophers call epistemology or the theory of knowledge. And I have found by actually trying it on them, that normal children have no difficulty in grasping that paragraph, it is so simple and obviously true. As you know, normal babies readily get a practical knowledge of what a word is; and begin to acquire, and even personally invent, a stock of words for themselves.

So there is no intrinsic or inherent difficulty in our getting a genuine grasp of all essential truth by going at it in this way. We already know it.

The difficulty we shall encounter is, that men, even babies, have been so ingenious, and so prolific, for so many thousands of years, in inventing increasingly elaborate words or gestures, that we merely have trouble in *remembering* the simple principles and thus using such simple truth, under all that complex elaboration.

The part of the gesture or movement that was intended to attract attention, came to be more and more a movement of the vocal organs, making a noticeable sound. That vocal movement was easy for the speaker to make; and it could be noticed by the hearer regardless of how his eyes were occupied—and also in the dark. Then man discovered that he could, by varying that sound, make it a gesture that not only captured attention, but further, finished the whole “word” by also ‘pointing’ or indicating where the hearer was to look.

As spoken words thus arose, a large variety of more and more arbitrary and complicated sounds were invented. People naturally would forget why a certain sound at first pointed to a certain thing. So they finally got auditory words that simply had to be learned from earlier users—and memorized, as being conventional or *usual agreements* among men to use certain sounds for certain pointings. The original meanings of those agreements, or verbal usages, were largely lost in the mists of antiquity.

Thus, all words (even as early as the second or third time they are used) carry *some* such dim original memories (“emotions”), which commonsense people recognize and allow for. But *intellectuals try to deny such emotional pointing*, or vaguely remembered meanings, and to assume impossibly “*exact*” words. Right there, at the base of language, is where our leaders, especially the exact or mathematical scientists, go wrong. They *assume* that a word can be made to point to, or mean, some perfectly exact thing—and in the very nature of things it *can't* be made to do so, as we shall see repeatedly hereafter.

We teach a baby our vocal words mostly by pointing out

in one way or another the things meant. Naturally, sometimes it was necessary to trace a picture of the thing in the air—or, gesturing more definitely, to draw it on the ground. Thus written words would begin. Almost surely ours did begin that way, far back in prehistoric time.

Written words, just as spoken words, would become conventionalized, and more and more arbitrary and elaborate. A further step in that direction was made when the conventionalized pictures began to be used to represent *parts* of the sound of a spoken word (as do letters of our alphabet), so that *several* such pictures could form a written 'spoken-word'. That step made words themselves more certain or "positive", but at the same time made their *meanings* more arbitrary and complicated—and thus would tend to hide the simple principles, or essentials, of words.

§2

Then came, in prehistoric times, the invention which made *words* into a *language*. Men agreed upon, or invented, a way to put words together to make a sentence—a way to "*unify*" *words*, so that a collection, called a sentence (or a speech, or a book), definitely or logically or *positively* points out a meaning.

Such a use of a number of words together, as a unified collection, obviously consists of using several primitive pointing gestures in a certain way (to be described below), so that all of them help each other, or join each other, in pointing to a certain intended thing; and all help to *avoid* pointing to any of the other, different, possible meanings that any one of the separate words alone might have.

I.e., *language*, consisting of combined words, is more definite or specific in meaning than just single words—*language* counteracts somewhat the inexactness, or dim memories (emotions) of separate words. E.g., if we say just "man", we might mean anything about any man, any where, at any time—we have said nothing very definitely, or

haven't used language, in the usual positive sense of the word *language*. But if we say, "The man we mean is George Washington", we have unified certain words, and have *somewhat* clearly pointed out to men who know our words, some rather definite meanings which are in those men's stock of known facts and dimly known facts (emotions).

That device of a sentence, or unified collection of words, which man rather half-consciously or intuitively invented, consists *essentially* of using one word to point to another word. I.e., he uses one word to join other words into a unit. *One gesture points to another gesture.*

Obviously, we can't join words together without some means, or "method", of doing it. And the means men adopted, was to use certain words to join other words. E.g., they used such words as "conjunctions", whose very name asserts that they join others.

That "joining" is the essential trick or invention or device, in *language* or "*logic*". Words were (1) invented in the general ways shown; then (2) a way was invented to make words become a sentence. The words used to join or relate the other words together, therefore do not themselves *directly* point to any actual thing [except that the word pointed to is, in one sense, *actual* ink marks or "things"]. In a sentence, those relating words are not strictly words in the primary sense of words. For they *indirectly* point, via the *other* words; and *directly* mean that the meaning of those other words must be taken together, *in harmony*.

But those relating words, *spoken alone*, often manage *then* to have a second meaning—often point rather directly to some actual thing. And in the fact that we tend to forget, and thus confuse, that double usage of some words, lies perhaps our greatest difficulty with language or truth.

That difficulty is made acute by the fact (shown repeatedly in detail hereafter), that our accepted authorities in words, the mathematicians and other scientists, either flatly

deny, or else ignore, the fact that there *are* any such relating words. But because they *use* such relating or conjunctive words, inevitably scientists lead men who incautiously follow them, into a long series of glaring self-contradictions whose natural end is agnosticism—a despairing, pessimistic assertion that nothing can be consistently known. I.e., scientists, by asserting agnosticism, admit that they are failures, incompetents, “quitters” in their jobs; and advise *us* to lie down and quit.

Lastly, science, as a result of ignoring those relating words, has got itself into an even more puzzled predicament:-

It is clear, that if we can use one word to point to another, one gesture to point to another gesture, then we can similarly use that other word to point to a third word. And we can go on that way:- use one word to point to a second, to point to a third, to point to a fourth, ... to point... to point to the *n*th word—which *n*th word finally points to the thing we mean.

Mathematicians *have* used words precisely that way. They call the result (of such suspended speech, or hang-fire speech) *n*-dimension space, or non-Euclidian space, or relativity, or by various other names. As they deny that there are any such relating words, naturally they don't know what sort of verbal tangle they have thus made; and haven't the faintest idea what they mean. But of course some of them try to tell us in long, complicated books what that meaning is; and other mathematicians say that such mysteries are too deep for common men like us to understand.

Strictly speaking, Einstein's relativity theory goes on using one word to point to another word, to point to a third, to point... and on endlessly; until finally, in abstract theory, relativity has one word clear out at infinity to point to the actual meaning. So *strictly*, it would require an absolute infinity of words *really* to state what the relativitists *claim* they state in their *finite* books. *Strictly*, the relativity

theory hangs-fire forever, and *never* really says anything. Of course, relativitists have too much commonsense unavoidably surviving from their childhood, actually to practice the infinitely hang-fire speech they preach. So they get one or two useful results, as will appear later.

Thus we see in a general, rough way how language is made, and how it runs away with itself when handled by our intellectual experts.

It is possible to go on from this point of view and get practical, working conclusions. But because language is only a tool, we have such slight interest in it that to continue such direct investigation of words themselves would be dull and dry. So I shall become more concrete and direct, by changing the point of view—by looking at the reality to which language points: at the truth which language means.

TYPGRAPHICAL NOTE. — In this book I use quotation marks in the usual way, and also in another way. The custom for that additional way varies some in different books; so I state my method:— When double quotation marks “ ” are not obviously used for direct quotation, or to indicate slang, then I use them to point out or *emphasize* the fact that I am using the inclosed word or phrase either in the orthodox professional way, or else am using it in the everyday conventional way. Similarly, single quotation marks ‘ ’ indicate that I am using the inclosed word or words in some slightly unusual meaning—such meaning being given by the context. That additional, or somewhat technical, use of quotation marks makes it possible for me to be much briefer and clearer. I also often use italics in a similar technical way, as a further means of saving the reader's attention and time.

CHAPTER III

WHAT WE REALLY SEE, AND THE THREE WAYS OF SEEING IT

§1

WHEN we look at things, we naturally or normally tend to see them as being essentially connected together, continuous, or working together (a fact shown in detail in Part II). At first, the universe appears to us as one thing, including ourselves. It doesn't separate out into neat, orderly piles of exactly definite things or facts, in the way the mathematical scientist dryly catalogs it.

But in living our lives, we need to discriminate *somewhat* between the *parts* of that continuous universe which we actually observe. We poke, and pry, and pull at parts of that big thing or universe, to see if we can manage to distinguish, or "separate", "different" things in it.

We call that desire and effort to divide the universe into parts, curiosity—or, in more lofty terms, scientific research. Normal little children busily engage in thus learning or discriminating parts. Obviously, our very lives depend upon our distinguishing and using the good parts, and avoiding the bad parts.

Consequently, *other things remaining equal*, the more curiosity we have, the more life we get—the more success and happiness we get. But other things rarely remain very equal. So scientific research often involves us in trouble (as appears later). "Curiosity killed the cat"—often.

Thus we have two opposite ways of seeing things:—(1) the natural, and (2) the unnatural, or scientific. We naturally see the universe as a connected whole or unit.

Becoming more sophisticated, we see the universe, not as a whole, but as parts.

Then, if we go on and become really sophisticated, gaining genuine understanding or wisdom, we notice that there is a third way, or step, in seeing things, which cancels that contradiction. For we see that the parts we distinguish are *related* together—do continue to work together, or inevitably to act and react upon each other, even when we do manage to “distinguish them apart”.

The more carefully we separate what we see into parts, the more definite becomes this third way of seeing things—the more clearly do we see that those parts really continue in systematic or “lawful” relationship with each other. Part II of this book, on scientific knowledge, shows that in detail. We need notice at this point only a few general examples:-

Everything is held together by gravity: so *something* must *relate* the parts or things we distinguish. (For precisely what that something is, see Chaps. 23-4.)

When we discriminate things as far as we can in the ultra-microscopic direction, we get electrons, or still smaller things called waves or quanta. But all of those are *related together* by something we call electrical force.

Looking at man, we discriminate spirit or mind from matter. But ignoring just here what those two things may actually be (see Chap. 28 §3), we notice that they always are related together in some way. If we drink a gill of alcohol it certainly affects or acts upon our spirit—as does in less degree a gill of water. Even those who assert disembodied spirits, at once further assert that they do not mean spirits *really* unrelated to matter, but offer as evidence of the existence of such spirits their action upon, or relation to, other things in the universe such as tables, bells, and so forth.

In short, if we divide the world into parts, we see those parts in a third way, as being related together, or working

together, by what we call "cause and effect", or "action-reaction".

Incredible as it may seem to commonsense people, science ultimately denies the existence of cause and effect—denies that there is really any such thing as action-reaction, claiming that we only delude ourselves that there is.

Later on, when we are in a position to see clearly why modern science is so blind as to be unable to see things in this third way, I shall of course have to quote you authorities in order to convince you that such amazing stupidity does exist among our intellectual leaders. Just now I merely mention the fact, that here is the real point at which science becomes agnostic, or ignorant, and generally incompetent—such agnosticism resulting because science basically insists that its words or measures are "exact", which necessarily means "*not-related*" (see Chap. 2 §1). For now we must notice how we use language to *express* these three ways of observing, or understanding, the universe.

CHAPTER IV

THREE KINDS OF WORDS:- ONE WORDS, MANY WORDS, RELATIONSHIP WORDS

§1

IF we observe all our words, noticing how they are used, we shall see that there are three kinds, corresponding to the three ways in which we see our universe of things.

(1) There are words like *all, everything, universe, whole, infinity, energy, God (the Father)*, which indicate our first, natural way of seeing a continuous or unit universe. We may call those One words, as they mean an ultimate One, or unity.

We could call this first sort of words:- unified words, or universal words, summing-up words, religious words, mystic words, or by a number of other conventional names. But those more usual names have for centuries been misused by specialists who didn't understand language, and have become somewhat misleading or spoiled. So it is safer to adopt the unusual name, One words—although I shall sometimes call these words religious words.

Also, that name, *One word*, is easier. For it saves us from having to think to drop whatever wrong traditional meanings, or emotions, attach to the old names. It is hard, painful work to think; and I never think except to relieve myself of some greater pain that results from not thinking.

Scientists who claim they are always open-minded, or unprejudiced (i.e., that they go about eagerly searching for chances to think), are either hypocrites; or else are so abnormal and inhuman as to be diseased—or some of both. All of us common people know we hate to think.

If you will forgive this digression, I shall assure you that I do just as much to avoid thinking in this book as the subject will allow. And as the subject intrinsically is simple, we shan't have to do any thinking that is painful. The moderate thinking we have to do once in a while in the book isn't *pleasant*. But it saves us from the considerable pain of being led into trouble by intellectuals; and, by comparison, is hence an agreeable relief. So this is a reasonably cheerful book.

The examples I gave of One words, such as *all*, *universe*, *infinity*, *God (the Father)*, are what we may call the *positive* form. All three kinds of words have a *negative* form. I.e., if we are talking about some subject, naturally we do not want to keep on talking about it forever. So we make a negative form of word, which says "*not* that subject", in order that we may use that form to *say definitely* that we *stop* talking about it. E.g., the negative form of the One word *all*, is the One word *none*; of *universe*, *nothing*; of *infinity*, *zero*.

Clearly, such negative words are *essentially the same kind* of words as the positive forms. For if *nothing* essentially or *really* means something different from *universe* (i.e., really contradicts *universe*), then if the universe exists when we point to it by saying the word *universe*, when we afterwards say *nothing*, we absolutely contradict or destroy that universe—which of course is nonsensical. So *nothing* merely means that we *stop* talking about the subject named *universe*, or quit pointing to it. Thus, *nothing* and *universe* are both One words—are not two mutually different or contradictory *kinds* of words.

(2) Next, there are words like *this*, *that*, *atom*, *electron*, *God (the Son)*, *part*, which indicate parts of that continuous universe—indicate that we have "separated" it into the "different" things. Those words mean that we look at things in the second, *scientific*, or *somewhat* sophisticated way, as being *many* separate parts. We may therefore call these Many words, as they mean that the universe is looked

upon as a Many, or plurality of things. Because such a plurality, or pluralistic universe, is the point of view science takes, I shall often call these Many words, scientific words.

Obviously, One words mean that the universe is continuous, and Many words, that it is *not* continuous. Or, the two sorts of words are flatly and irreconcilably contradictory. The two sorts are absolutely different essentially, or in kind, or in meaning—and *just those two kinds of words can not be reconciled*.

Plainly, the universe can not be both continuous and discontinuous, a One and a Many. Throughout history men have squabbled over the problem of whether the One is true or real, or whether the Many is true or real. That question has been called the problem of the One and the Many, or the riddle of the universe, or the problem of good and evil, or of monotheism and polytheism—and in recent centuries, that irreconcilable contradiction is called the war between science and religion (or theology).

(3) Last, there are words like *force, fatherhood, good* (negative form, *evil*), *God the Holy Ghost, Being, is, of, equals, =, ×, +, :, ;, ?, (), life, personal, redness, beauty, truth, value, system, science, number, time, space*. Those words indicate that the Many things we see and name are related together. So this third sort of words may be called relationship words. They *indirectly* point to (or mean) the link of cause and effect, or the existence of action and reaction, or assert the working together of the Many.

Obviously, relationship words, *as words*, connect together, or unify, the Many words into a One—so that our *three* sorts of words, *considered together, mean* the One, *without self-contradiction*.

I.e., Many words do irreconcilably contradict One words; but relationship words and Many words *also* contradict each other, and cancel the first contradiction. Two negatives, or contradictions, are equivalent to a positive—cancel each other.

That is the basic solution of the riddle of the universe.

All we need to do in the rest of this book is to look at various useful aspects of it (e.g., the physics solution is in Chap. 23 §2), and to notice why intellectuals for centuries should have got themselves confused over that excessively simple fundamental truth.

CHAPTER V

DETAILS OF RELATIONSHIP WORDS, GIVING PRINCIPLES OF MATHEMATICS, GRAMMAR, AND LITERATURE

§1

BEFORE looking at various forms of the solution of the riddle of the universe or the problem of the One and Many, we need to look at a few facts about relationship words in this chapter. Our intellectuals go wrong about relationship words—ordinarily deny in one way or another that there is any such thing as relationship, and hence ignore or deny such words. So we need to notice the actual facts.

We saw in Chapter 2 that we use some words to point from one word to another, thus connecting words into a language. Those of course are relationship words.

We further saw in Chapter 2 that if we adopt that language-forming, or “formal”, device of using a word to point to a second word, we similarly could use still another (or third) word to point to a fourth word, and a fifth to..., and so on forever, in an infinite series of steps, or in *infinite regress*. (Please remember that short phrase, *infinite regress*.) For that device is arbitrary, or an “invention”, and not essential; so if we use it once, there is nothing to stop our using it again and again, if we like. And important *practical* modifications of our language do result from our half-consciously duplicating relationship words in series. E.g., as we shall see, all of “time” and “space” is simply such a logical device or method.

A typical sentence, which gives a *complete* meaning, is therefore this:- one thing and a second thing and a third

and... is in an infinity of things, or the One. (We notice at once that we can't *actually name* or *say* all the Many things; so I use the dots ... to indicate that they go on forever. The dots may be read:- "and so on forever"; but I usually call them just "dots".)

We can abbreviate that sentence to:- $1 + 1 + 1 + \dots =$ *Infinity, or The One*. In that sentence, the relationship words are *and* (or $+$), shading off vaguely into the dots ...; and *is* (or $=$, or *equals*). Obviously, the actual *meaning* of those various relationship words (of *and*, $+$, ..., *is*, $=$) is:- *identity*. The *is* or $=$ explicitly asserts identity. The *and* or $+$ or ... explicitly asserts *continuity of the Many*—asserts that the Many is *not really* a Many, but only *formally* such, so that *all* the *and*'s mean identity. Plainly, the *is* sums up the *and*'s; and the *is* explicitly says they mean identity.

That typical statement, $1 + 1 + \dots =$ *The One*, is mystic—just as the dots ... are mystic or vague, including all *emotions*. We can't, and don't, *actually say* the unending series of words. But obviously, the *meaning* is simple and clear. The difficulty (if we call it a difficulty) simply is, not that we don't know what we mean and what to say, but that we do not take the infinite time necessary to say all the infinite regress—and plainly, don't need to.

So each relationship word, and all relationship words, *mean* only one thing:- relationship, or continuity, or identity. But (1) only a few relationship words, like *is* and *identity*, express *explicitly* or fully that real meaning of every relationship word. (2) The other relationship words, like *and* and *love*, obviously only *imply* that we really mean *and...* and *love...*—only imply that the meaning runs along in infinite regress until it sums to *explicit* identity.

We could, if we wished, give those two sorts of relationship words different names (e.g., "explicit" relationship words, and "implicit"), and work out long and complicated details of their use. But as they obviously fundamentally

all mean the same, we can understand whatever those details amount to, without writing them out—precisely as we *know* $1 + 1 + \dots = \infty$, or *The One*, without writing down all the infinite series of 1's, before we name them ∞ (infinity).

A formal discussion of those details of relationship words would be *applied mathematics*, or a technical treatise on *logic*—which we don't need here. We shall simply notice (in the next four Sections) four important results upon our everyday language of the fact that relationship words at least imply an infinite regress.

§2

(1) We ordinarily do not make an explicitly complete sentence, such as $1 + 1 + \dots = \infty$. We usually make an abbreviated sentence, $1 + 1 = 2$, in which the 1's are *formally* Many words, and are (by the relationship words) combined into, and stated to be, an *identity* with the 2, which 2 is *formally* a One word. Obviously, the 2 is *not* the whole universe; but it is given the verbal *form* of a whole, or a *unified* One. The 2, for the purposes of the sentence, is formally the *whole subject*; or is what we may call a *standard universe*, or *standard One*.

Therefore, our first important result of the fact that relationship words at least *imply* an infinite regress, is that in everyday talk we often deal explicitly with *standard Ones*, and let the relationship words bear the burden of *implicitly* pointing out the whole or infinite One.

In short, for ordinary talk, we do not need to repeat *explicitly*, every time we say anything, that we *mean* that our subject is part of the whole One. We merely imply it—courteously taking it for granted that our hearer *knows* such a simple fact, or “has commonsense”.

Relationship words thus bear most of the “burden” of our talk. There is *so much* of relationship in language, that our intellectuals simply don't notice it, or don't notice it

properly—just as we ordinarily don't notice the air all about us.

Of course, commonsense men all know, and see, and admit, that there are relationship words. But our intellectuals set themselves up as being able to give us *exact* knowledge—even claiming that knowledge which isn't exact (or *infallible*, to use the theological term), isn't knowledge.

Obviously, the existence of relationship words flatly requires that *every* Many word be *modified* by *every other* Many word (requires an infinite regress). In short, the existence of relationship words *shows that there can be no such thing as exact or infallible Many knowledge*.

So the intellectuals, to preserve their prestige, or sustain their erroneous claims to exactness, simply deny that there are any relationship words or any relationship. I shall quote them repeatedly to that effect hereafter.

I here quote scientists' general denial of relationship:-

(1) Wittgenstein asserts (*Tractatus Logico-Philosophicus*, a treatise on fundamental mathematics), that what I call Many words are the *only* sort of words. (2) Russell approves that book in an Introduction; and other leading mathematicians have acclaimed the book in extravagant superlatives. Less "modern" mathematicians practically ignore relationship, but don't clearly say so (for specific details, see my article, *Monist*, Oct., 1924; for practical proof of it, see below, Chap. 7 §1). (3) Karl Pearson's *Grammar of Science* is usually accepted as the authoritative statement of basic science. It practically omits relationship. Scientists usually give the specific names "cause and effect", "law", "action-reaction" to what I call relationship. Pearson denies the reality for science of cause-effect (*Gram. of Sc.*, 3rd ed., Chaps. IV, V). (4) *The Encyclopaedia Britannica* states (XVIII, 238-9) that science (e.g., Mach, Pearson) denies cause-effect, and the reality of Newton's law of action-reaction. (5) Finally, after scientists thus deny relationship, they contradict themselves by saying that

they know nothing about such matters, and that the subject doesn't belong to science anyway (e.g., *Ency. Brit.*, Art. *Science*, pp. 402-3; cf. Cattell's views).

If our intellectual leaders were to admit the glaring fact that there *are* relationship words, they thereby admit that they have *failed to be reliable as leaders*—they would have to agree that they were wrong in claiming exactness and infallibility. So they childishly deny relationship words. Or, when I am too clear and insistent in pointing them out to those experts, they say that of course there are such words, and everybody knows it; but that it makes no difference, and the words aren't worth further notice—and that I am crazy to insist that they are.

In short, the real difficulty about fundamentals is that our leaders are more engaged in trying to preserve and protect their prestige, than they are in getting at the truth of things.

That quite human fact will appear in many forms throughout this book. There is no difficulty about *understanding* fundamental truth. But there is great difficulty in getting an "authority" to admit that he has overlooked something, or in getting him even to take actual notice of what he has overlooked.

§3

(2) It is customary for mathematicians to regard the sentence $1 + 1 = 2$, as being the acme or perfection of explicitness, exactness, and certainty. But now that we have carefully looked at language, we see that $1 + 1 = 2$ is even more mystic (*more* vague, in the sense of being incompletely expressed), than is the sentence $1 + 1 + \dots = \infty$. For, in $1 + 1 = 2$, the $+$ either must mean $+\dots$ (finally *identity*); or else we assert that two *absolutely separate* things, 1 and 1, are identical to an *absolutely whole* or One thing 2—which is an absolutely irreconcilable contradiction.

Therefore (even if we neglect the further fact that 2 is not explicitly the ultimate One), the apparently perfect, complete, or exact statement $1 + 1 = 2$, is actually not nearly so explicit or definite as the sentence $1 + 1 + \dots = \infty$. And that latter sentence is explicitly and honestly mystical.

Or, to state that in a more common way:- Our ordinary, everyday sentences all necessarily *imply* the total One or infinite universe. The words in them point to things, and obviously can have no real meaning whatever *until* they sum up into an "is", or an identity with the whole of truth, or the whole real universe. Therefore, our usual sentences about everyday local or restricted matters, where the "subject" or One is only a formal or standard One, are vague, and are lacking in complete explicitness, are more mystic, than the explicitly mystic sentence:- All the related-Many *is* the One; or, $1 + 1 + \dots = \infty$.

That sounds queer, of course, because the mathematicians have always told you the opposite:- told you that $1 + 1 = 2$ is *perfect* truth. But immediately from it you can see what is basically wrong with mathematical or exact science:-

The acme of mathematical, certain truth is supposed to be $1 + 1 = 2$. But if we find a child who knows the words *one* and *two* but hasn't learned to count, and say to him, "one and one is two", it would *mean* to him that *probably* we wanted to say something to him—he didn't know what. So not only is $1 + 1 = 2$ not really rigorous, but of itself it is indefinitely uncertain—highly mystical. In order to *mean* $1 + 1 = 2$ to the child, we should have to begin to point out to him various things in the universe, and go on long enough to give him the idea that we meant that those things were some sort of collection or whole. It would be fairly easy to make that *beginning*. It amounts to saying to him (in *his* vocabulary), $1 + 1 + \dots = \text{The One}$; and the ordinary child knows that simple truth long before he understands $1 + 1 = 2$.

But when we then try to finish making the child *under-*

stand $1 + 1 = 2$, we find that not even our learned mathematicians are agreed as to what it means. Although they verbally claim that it states absolute truth, they *actually* are still quarreling over the question of what a *number* (i.e., a *generalized* name, such as 1 or 2) really is (see *Ency. Brit., Arts. Number, Mathematics*). If we watch a child learning what the verbal statement $1 + 1 = 2$ means, we see that he actually *fails* to learn. At first, and often for years, he takes our "word" for it, and repeats the formula, or that "word", like a parrot—or mathematician.

So, in order to "put over" to the child the meaning of $1 + 1 = 2$, we should next have to point out to him what we have already observed vaguely:—that every "thing" or every "1" that has actual meaning changes with time. The more precise statement of that, is that mass (or a "thing") varies with velocity, and every mass actually has a motion that is varying (Chap. 18). Consequently, when we state the first 1 in $1 + 1 = 2$, *if* that 1 has any actual meaning (if it actually points to any part of the universe), then that first 1 *changes some* before we *say* the second 1; and *both* have changed before we can say the 2.

Therefore, $1 + 1 = 2$ can't possibly have any accurate or exact real meaning. It is just a *mystic verbal formula*, that is absolutely true, *as such*, when and *if* we know it is *mystic and mean it to be so*.

We all *agree* that the *formula* is "correct"—i.e., that it is an agreed-upon *verbal form*. Or, we *arbitrarily invent* the formula to mean something—although we could just as well agree that ZgB\$rsel!(+gq is as rigorously true as $1 + 1 = 2$. For neither formula *fully means* anything *until* it is referred to the *whole* universe. And then it means *The related-Many = The One*, and we see that there is no such thing in existence as a *steady or exact* 1.

So when Millikan was given a Nobel prize for proving that all electrons are exactly equal (that every electron is an *invariable* unit, or what we have *more generally* been

namely 1), he was given a prize for proving something that simply is nonsense. We shall see throughout Part II the detailed proof that orthodox science is thus basically wrong.

In other words, any man who claims to separate his business from morals, or money from ideals or the One, or science from religion, or any subject from any other subject, flatly violates the essential principle of things (continuity, or relationship, or cause-effect), and shows his basic ignorance of the very *language* he uses to assert such a separation. His very words belie him.

We saw (Chap. 1 §1) that Cattell asserts in effect that such matters are not in the scope of science. Another prominent scientist, Vernon Kellogg, says (*World's Work*, May, 1924) that "evolution has to do with biology, not with religion. The evolutionist, as evolutionist, has nothing to do with the Bible". Darwin wrote in a letter, "Science has nothing to do with Christ". Pearson denies the reality of cause-effect. As we proceed, we shall see that it is typical of intellectuals to assert that their specialties have nothing to do with each other, and in other ways to deny relationship as Pearson does for science.

So our second important practical result of the fact that relationship words at least imply the infinite regress, is that our everyday use of standard Ones is actually more indefinite, or is more *unfinished* talk, than an openly mystic statement about the *whole* One or infinity.

Orthodox mathematical science, even while implicitly admitting that fact by quarreling over what a number is (over what a word-in-general really is), contradicts itself by explicitly asserting that $1 + 1 = 2$ is absolute truth, or is "exact".

Thus, the real fault of science is that it is half-baked—doesn't finish its remarks, omits relationship, and fools itself by continually clamoring about how exact or "finished" it is.

Real truth, human life, religion, worth-while things, do not thus "finish", or come in neat little exact packages.

Neither does any ordinary simple statement—as we clearly see, now that we have taken a careful look at language. Neither does *sound* science ever become exact.

§4

(3) We have seen that relationship words at least imply an infinite regress; so that the final, sole meaning of relationship is identity. We have seen that in some everyday sentences that regress, or pointing of one relationship word to another, then to another, and so on, is not expressed. E.g., the $+$ in $1 + 1 = 2$ has its regress left implicit—the $+$ really meaning $+\dots$.

But in much of our actual talk we do express some of that duplication or regress. There are all degrees of explicitness of such talk—and hence an unending flexibility, or variety, or “style”, to logic.

We now notice the important results upon language of what we may call *indirect* expression of some duplication of relationship words. Such duplication gives what are usually named *adjectives* and *adverbs*. Then in the next Section we consider *direct* duplication.

Obviously, if in a sentence we say “red chair”, we mean that the chair has been compared or related to other chairs, and its particular place in the One is pointed out by the word *red*. “Red” thus is *indirectly* a relationship word. The remainder of the sentence containing “red chair” gives the direct relationship—whatever it may be. That direct relationship points to the “red”, and “red” indirectly then points to chair. Or, the adjective *red* is an *implicit* duplication of relationship words. Similarly, adverbs are indirect relationship words.

Even more indirect are such relationship words as “abstract nouns”, like *redness*, *truth*, *evolution*. Plainly, the meaning of such is (1) mostly an adjectival relationship-word, “red-”, pointing to (2) an implied (but *not named*) Many part, which missing or abstracted word highly indirectly completes the meaning.

Thus, *truth* means primarily a self-consistency, or *relationship*, or final unified identity, of things as the One; then *truth* means *further*, that that relationship does exist between the *Many parts* which the word *truth* implies, but does not state. Obviously, *evolution* means precisely the same essential thing:- a relationship, and implied Many things between which the relationship exists. *Science, religion, philosophy, value, good, happiness, beauty, God the Holy Ghost, love*, or any other abstract noun, ordinarily means that same essential thing.

The *only* difference in the meanings of all those abstract nouns, or indirect relationship words, is that they severally indirectly mean or point *first* to different Many things, and then secondarily to the *remaining* Many things. When we begin to discriminate between their meanings, we ordinarily consider (and use) them as being no longer relationship words, but as being One words, or Many words. (I.e., any word *can* be used as any one of the three sorts, if we like. What sort it is, of course depends upon how it is actually used in the given context.)

Incidentally, we now see that when a demagog or other intellectual leader begins to talk to us about liberty, equality, fraternity, solidarity, justice, service, cooperation, truth, law, science, significance, system, and so forth, he has merely said that the related-Many is the One. That meaning is quite true—and is very pleasing to hear, as we know it already. It confirms our wisdom, and also stimulates us into a happy grasp of the One (see Chap. 10). But now that we have seen that such abstract words really all actually mean the same thing, we can reasonably require the intellectual to go on and say *specifically* and *definitely* what he means about the pertinent parts of that infinite One. Thus a knowledge of the elementary facts of language gives us a simple, sure way of judging the high-flying talker.

There are other indirect relationship gestures besides adjectives, adverbs, and abstract nouns. We need not bother with their details in this book. We may take care of such

details by simply agreeing that we shall consider the whole phrase "a red chair" as being a Many 'word'. For the *phrase* obviously is logically a Many name. By simply considering all such duplications, or relationship regresses, as phrases (sometimes partly implied), we still have our basic three sorts of 'words'.

So whenever I say *word*, it is to be understood that I may technically include phrases, clauses, gestures, "symbols".

If I went on and discussed those details of the relationship regresses, obviously the first, somewhat formal or general result would be a treatise on mathematics, consisting of theoretical and applied logic. The next, more specific or more detailed result would be a treatise on grammar. And the last, indefinitely detailed result would be a treatise on rhetoric, style, and all literature.

We now know the *reasons* for the details that would be included in such treatises—have seen the principles of those subjects. Hence the subjects would be intelligible and pleasing. But we adults, by experience in living, already know the details we ordinarily need, and have little time to read them. So I omit those subjects.

But children, of course, ought to have such subjects in some detail. They especially ought to have the principles, or base, or purpose of the subjects. They could understand and use such studies then, and would like them—for we like what is useful, or used.

As it is, orthodox grammars, mathematics, etc., don't really understand themselves—can't, as they begin by asserting basic errors. Naturally an intelligent child must hate them, and be harmed by them—and if he is vigorous enough to hold on to his commonsense, quickly forgets them.

§5

(4) We now observe the results on language of *directly* duplicating relationship words—of using one relationship word to point to another, and so on. In short, we observe the result of asserting "a relationship of a relationship".

Clearly, when we start on a career of saying "a relationship of a relationship of a...", on to infinity, we are saying more than a "mouthful". We can't actually *say* it. But although the *practical* complexity becomes infinite and impossible to handle, yet if we coolly notice that *essentially* we do nothing more than use one word to point to another word, then we needn't get either dismayed or confused.

However, as will appear in numerous places hereafter, scientists do get confused over this duplication of relationship words. So you probably have been confused by the scientific talk, and will need to keep a fairly firm hold on your commonsense as we now *formally* follow such duplication out to infinity. I used to listen seriously to the scientists; so it took me about ten years to learn to follow these duplications of language with sure ease. If you haven't unfortunately put too much faith in science, I judge you can follow these duplications on the first trial. However, this Section will be "hard" reading—the only actual hard reading in the book.

But even if you don't trouble to grasp this Section in detail, no particular harm will be done. For what we are going to get, is the meaning of *time* and *space*, and the complicated verbal tricks that can be performed with those relationship words. But unless you need to use those mathematical tricks professionally, you already have ample essential knowledge of them. This Section consists of the merely verbal gymnastics of *expressing* what you already *use* practically in everyday forms.

The first thing to notice is that a "relationship of a relationship" is senseless. E.g., "brotherhood of motherhood" is glaringly without meaning. "Identity of identity" means nothing; but is a self-contradiction, or cancels out. I.e., there is *only one* relationship in the universe, identity or unity: to name *two*, and *only two*, relationships contradicts that fact.

But just as the One contradicts the Many, and is reconciled by adding a *third* sort of word, so, in the same way, if

we add a *third* relationship word, we have *two* of them *automatically* canceling themselves out (to nothing, or to "nonsense"), *leaving* us the one needed relationship word to make a sound language with.

Therefore, in order to have sound logic we must always add an *even* number of duplicate relationship words (*if* we add any), giving languages with formally 5, 7, 9... different sorts of words. Obviously, the added pairs of relationship words really cancel out, essentially leaving us with our *minimum*, or *most economical*, everyday 3-form or trinity language. But in principle, there *can* exist sound *different* languages of 5, 7, 9... forms.

That general principle, which controls the whole matter of super-trinity languages, is of course very simple. It is the *application* of the principle which puzzles us. Prehistoric man did definitely and correctly apply that principle, when he invented the relationship words *time* and *space*. He thereby got what is *strictly* a 5-form language; and introduced a verbal puzzle about which intellectuals have written libraries of bosh. They are still busily doing it. In nearly any Sunday newspaper scientists solemnly figure on what Einstein's space is, anyway.

However, prehistoric man also *directly canceled* the space and time addition by applying the same principle of duplication of relationship in the *reverse* way. I.e., if we may duplicate relationship words, then by the same principle we may *divide* any relationship word into *parts*. *Reverse duplication* is perhaps an intelligible name for such reverse application of the principle. Any *sound principle* always works *perfectly* in either direction, with absolutely no exceptions.

By such reverse duplication, prehistoric man split space into three relationships, called "three dimensions". That left one effective, uncanceled *reverse* duplication, that always logically canceled out *space*. So our language, even when the two duplicate relationship words, *time* and *space*, were added, always, in a second automatic way, canceled them out by the device of reversely duplicating space into three dimensions.

Thus our prehistoric language automatically worked correctly in principle. So long as it was used with commonsense there could be no difficulty with it. It was *doubly* fool-proof.

There is nothing strange about the fact that prehistoric man could make that somewhat complicated language machine, and have it work perfectly in principle, even though the experts couldn't state why and how it did. A child can invent and use a lever, and many children have been doing so for ages. But not until a few centuries ago was the principle of the lever correctly stated—and not yet does science correctly state the principles of *actual* levers. (It states the principles of rigid or "exact" levers; and no lever is absolutely rigid.)

Therefore, regardless of whether or not men *explicitly asserted* that *time* and *space* are themselves two duplicated relationship words that always go together and logically cancel, leaving us with a trinity language (see Chap. 28 §§2, 3, for details of time-space), still the device of reverse duplication of space into three dimensions would keep the language automatically perfect in principle.

Men found it difficult to be *explicitly* clear verbally that when we do invent a relationship word such as the typical *and* or $+$, it always means *...and...* or *...+...* (i.e., means an infinite regress in *both* "directions"). So they did *definitely* invent *space* and *time* in order to *express explicitly* those dots in both directions. That is the fundamental reason for space-time. Space and time express what I have been saying with dots.

Then, men sometimes failed to *say explicitly* that any actual use of space involved corresponding time. I.e., they sometimes forgot, or overlooked, the fact that space and time *always*, at least implicitly, are used together, canceling each other and really leaving the economical 3-form language (see Chap. 28). So men further invented the reverse duplication or "three dimensions", that would cancel out space explicitly even when time was only implicit.

Thus, regardless of whether *time* be explicitly stated or

not, whenever *space* is used the language remains sound in principle so long as we take space as three-dimensioned. And in all commonsense affairs we do. We say we can't really "conceive" any other sort of space. We actually can't, *in trinity language* or dictionaries—which is what we mean.

Thus prehistoric man invented a practically fool-proof language, as well as a positively explicit one. Space-time was the device that *explicitly* stated the dots of ...and... whenever explicitness was needed.

I.e., space and time *positively* say, or express, *motion*. Words *of themselves* are static, motionless, dead, *finished* gestures (*unless* we consider a word as changing its meaning even *while* it is being written—a verbal refinement which would state the *actual fact*, and which we can add if we like; but which is scarcely practical to add because words change an *imperceptible* amount *while* being said).

The *implication* of a relationship word is the infinite regress, or the dots of ...+... that do keep on *moving* out to include the whole universe. Therefore, when we *explicitly* express those dots by using space-time, obviously we have plainly *stated* motion, even though we nominally (and especially *practically*) use static, or "motionless", words to do it. But that paradox is not really a self-contradiction, because we *admittedly* do not *fully in words* express motion—as to do so would need an infinity of words.

Thus we see again that language we ordinarily use, is mystic or incomplete. For *every* thing we talk about is moving, so that an infinity of words would have to be used to make an *exact* statement about that thing, and we obviously do not use an infinity of words.

In short, time and space simply *express* motion, or *continuity*. We all fundamentally know, or "understand", that motion means a connection; or a chain of cause and effect; or a force, or union, or "spirit" of some sort (Chap. 28 §2), between "parts" of a whole or One. We shall not be able to see precisely what a relationship *actually* is until we discuss fields (especially in Chap. 21 §5). We are here seeing what a relationship *verbally* or "mathematically" is.

Further, we know that "motion of motion" simply keeps on meaning just "motion". And "*motion*" when *explicitly* expressed is obviously '*...motion...*'. In precisely the same way, relationship simply keeps on meaning relationship, and can't mean "relationship of relationship". And relationship *explicitly* expressed, is '*...relationship...*'; and therefore finally implies *all* the infinity of Many things. Or, relationship really has only one meaning:- identity.

Therefore, *in principle*, direct duplication of relationship words does not change the essential meaning of language at all—provided of course, we do it correctly; if done incorrectly, *strictly* speaking it destroys language, or makes nonsense. And *in practice*, such direct duplication is simply the *explicit* expression of *some* of the infinite regress—explicitly expresses some *motion*.

§6

Thus, we have seen four important results upon language that follow from the fact that all relationship words really mean identity:-

(1) Our everyday sentences can never *explicitly* express the infinite regress. And most of them explicitly have standard Ones for subjects, simply implying that such formal Ones are within the whole One—the relationship words implying, but not actually saying, that real meaning.

(2) Our everyday sentences are therefore not exact, or complete; but are mystic, merely implying the total infinite One.

(3) There may be words of a vague sort, such as adjectives, adverbs, and abstract nouns, which *indirectly* express the *final* relationship meaning, identity. A full discussion of those would require treatises on mathematics, grammar, rhetoric, and literature. For brevity, we simply consider such indirect words as parts of phrases, and take phrases as being definite 'words'.

(4) Direct duplication of relationship words ordinarily

gives *time* and *space*—really constituting a 5-form language, which, however, states a *meaning* identically the same as our trinity language. Further duplications give higher super-trinity languages—a number of which are vaguely formulated by mathematicians. The details of those are intuitively taken care of by us; but the intellectuals are much confused by super-trinity languages.

CHAPTER VI

VARIATIONS IN LANGUAGE, CULMINATING IN THEORY OF RELATIVITY.

§1

By considering relationship words, we saw in the last chapter that sound language points out a meaning which runs on in infinite regress.

We get precisely the same principle when we change our point of view, and consider Many words. We shall briefly use that *Many* point of view in this chapter, and see how intellectuals get further tangled up.

Instead of saying that $1 + 1 = 2$ is a vague or mystic statement which finally means the actually intelligible $1 + 1 + \dots = \infty$, or *The One*, we can say that $1 + 1 = 2$ really means the intelligible statement $1\dots + 1\dots = 2\dots$, in which the dots still mean the same infinite regress, but now (when joined directly to the Many words, instead of to the relationship words) *explicitly* say that the Many things are not exact or static or motionless or outside the chain of cause-effect, but are in the actual universe and are all acting-reacting with each other. The sentence $1\dots + 1\dots = 2\dots$, or $1\dots + 1\dots = \textit{The One (or a standard One)}$, formally says all that. So it is *verbally* explicitly true or absolute.

Of course, the dots don't *actually name* all the infinite possible Many parts. The sentence is only logically absolutely true.

In the last chapter our *explicit* form, or verbal expression, $\dots + \dots$, indicates that all *relationship words* mean just one complete, *absolute*, perfect thing:- identity, or unity. That symbol $\dots + \dots$ indicates that *any* relationship word simply means the continuity of things, lawfully, or by

cause-effect—which obviously is what we started having “relationship” mean (Chaps. 2, 3). We have merely followed that meaning in definite detail throughout language.

In this chapter our *explicit* form, or verbal expression, 1... (or preferably, ...1...), indicates an incomplete, *un*-absolute, or varying or relative, “imperfect” *thing* or part. The *whole* explicit expression, ...1..., obviously *means* the One. I.e., if we explicitly fully express *any* Many part, it extends without a break to include, and *be*, the whole universe—a *highly important fact* repeatedly shown in detail hereafter.

Our everyday language largely mixes those two ways of saying, or ‘attaching’, the infinite regress. I.e., in our everyday talk we *partly* mean the infinite regress to be attached to some relationship words, and *partly* mean it to be attached in the completing degree to some Many words.

It of course looks odd, for me openly to express that regress by dots, as I have been doing. But we always imply (*mean*) the regress; and only by writing it down (say as dots) can I make it clear just how our language works when we further complicate it by *mixing* the two ways of attaching the regress. If we don’t know how our language works, *strictly* speaking we can’t say anything—but lapse into futile agnosticism.

: People pay about 1 to 12 cents for a kilowatt of electricity running an hour. (That variation of 1200 percent incidentally shows that quantitatively money, too, “talks” rather varyingly or inexactly; but its “talk” doesn’t vary nearly so much as talk that uses words.) Electricity is measured or “named” as watts—which are amperes or quantity (Q) of electricity, times its voltage or pressure or intensity or potential (P) or strength; i.e., *Amount, or One, or watts, of electricity* $= Q \times P$, with unit *time* merely implied, although it is definitely named [hour] when we come to pay for electricity.

In the same way we say that life is made up of good and evil ($Life = Pleasures \times Pains$); that morality consists of a combination of rights with obligations or duties ($Ethics = Rights \times Duties$); that our government is a balance between states and federal government ($Nation = States \times Federal Government$); that our work or life consists of our acting-reacting with our environment ($Human energy = Environment \times Individuals$).

A large proportion of our statements, both in technical science and in daily affairs, consists of such comparisons, or "multiplications", of what are called two *factors*. We often say, and even more often imply, that one thing causes, or affects, influences, modifies, or controls another. And vice versa, we say that we will "look into" something, or *analyze* something, to find the factors, or causes, or "parts", and so forth. There are thousands of verbal ways of thus dealing with, and naming, what we may conveniently and conventionally call *factors*.

We may see the nature of factors by considering the familiar, intelligible statement that our government consists of states and federal government working together, acting-reacting, "affecting" or "influencing" each other. We may abbreviate that statement to this:- $State\ government \times Federal\ government = Nation$, or *Standard One*, or *U.S.A.*; or, $States \times Federal\ government = Nation$.

Roughly speaking, in that sentence, $States \times Federal\ government = Nation$, the word or factor *States* means (1) the land or territory and its "improvements", and the inhabitants, of the *Nation*, together with (2) state and municipal organization, or internal *relationships*. Or, *States* has partly a *Many* meaning, and partly a *relationship* meaning. Then *Federal government* means *mostly* the *relationship* of those *States* into a *One* or *Nation*, but does partly have a *Many* meaning—as there is some federal land with its inhabitants. Further, the inhabitants and even the land of the *States* are always changing. The land doesn't change much, but in strict fact the earth's surface is continually stretching variably.

Thus, *States* is not an exact or complete word; to be *explicit*, it must be *States...* . Similarly, *Federal government* strictly is *Federal government...*; because, on account of continually changing legislation and court decisions, the relationships it mostly means are changing in infinite regress; also, the rather few Many things included in *Federal government...* observably change.

So the first obvious commonsense point about those two factors is, that we imply or mean the infinite regress as attaching to *each*.

And second, it is obvious that each factor actually has partly a Many meaning, and partly a relationship meaning. The *two* factors, together with the \times (or whatever other *explicit* relationship word is used), verbally amount to:—“*the related-Many*”. I.e., “factors” verbally mix relationship words and Many words together; and imply an infinite regress as attaching to *both* sorts.

But, it is obvious that we can’t *really* multiply cows by horses, or states by federal government, and get a result. Hence, when we formally describe factors, it is preferable to say that *States...* is a Many word, and *Federal government...* a relationship word—the two factors, *and* \times , being equivalent to:—related-Many. For actually, the extra relationship word \times implies that such is our real meaning. Additional details of factors are given more intelligibly later on (Chaps. 17 §5; 22 §1).

In short, just as ordinary Many things are not sharp and separate or exact, so *words themselves, as we ordinarily use them, often tend to merge into one another, with no clear line as to which sort is which*.

However, when we think clearly—i.e., when we avoid making nonsensical or self-contradictory statements,—we always (in meaning, at least) reduce our language to a trinity form. E.g., if we *fail to see* that in real meaning *States* \times *Federal* is fundamentally a *related-Many*, the factor *States* being in principle (usually) a Many word, and the factor *Federal* a relationship word (which explicitly adds

some dots or regress to the relationship word \times),—if we fail thus to see or think clearly, then our very language simply confuses and hinders thinking, instead of helping it.

For the purpose of language is to point out *separately*, things which are *really unified*—and then say intelligibly that they *are* unified.

So if we run different sorts of words into an *undiscriminated* “mixture” in one given word, we obviously have essentially destroyed our language. Language simply won’t work if we don’t (in meaning, at least) clearly distinguish the verbal mixtures we often conveniently do make. (Chapter 13 expands this paragraph into clearer detail.)

Thus it appears that a great difficulty we have with language, and hence with our thinking, is that in the passage of the centuries language has become what we may paradoxically call too good. Men started out to make a language that would, with mutual intelligibility, usefully point out arbitrarily separated (Many) parts of the infinite One—just as the hen talks about food to her chickens. But in the course of ages the language itself tended to become an infinite, unified, or run-together One. The three sorts of words tend to mix themselves.

§2

Orthodox scientists say in effect that there is only one kind of words:— Many words. That amounts to materialism—and is essentially what the early Christians called polytheism, paganism, or idolatry. In Chapter 5 §2 I quoted mathematicians as explicitly asserting such materialism. But it can be found in varying degrees of explicitness, in all orthodox statements of the principles of science I have ever seen.

In short, mathematical science has so confusedly mixed all sorts of words into just Many words, that strictly speaking it can say nothing which is basically right or sensible. I shall now show that—in a way which will begin to indicate that the foregoing apparently abstract or “theoretical” talk about infinite regresses or dots is useful.

Incidentally, that "theoretical" talk gives the basic principles of what mathematicians call "functions" and calculus, and of what we in common life call analysis, and measures, processes, "functional management", organization, corporations, governments, systems, and so on. Mathematicians simply omit those basic principles, and then write volumes of verbal piffle about functions. We are always under the temptation to use such mathematical rubbish in everyday affairs.

Let us proceed to see definitely how intellectuals mix words.

Practically all scientists now describe an atom as being (1) material or Many electrons (particles of negative electricity), moving in (2) "free" or empty space about a highly condensed Many nucleus, which consists of (1) some more electrons, and (3) some protons or positive-electrons, and (2) more free space. They say that the atom is made up of many million times more "free space" than of those two sorts of Many particles. Obviously, by such language, "space" is essentially a *part* of an atom—*space* is not a relationship word, but a Many word. (See also next Section.)

Thus in *actual practice* science *basically* makes space, or generalized relationship, *materialistic* or discontinuous; and so, in fundamental principle, destroys any possibility of our understanding the universe (cf. Chaps. 22 §2; 21 §5), or having any God, or having anything of value (relationship) except materials such as gold dollars.

§3

Then modern science even more explicitly destroys or ignores relationship words—becoming plainly meaningless to people with commonsense. It does that in Einstein's relativity.

First, the relativitists say in effect that time is essentially the same as space—is what they call a fourth dimension of space. We have seen (Chap. 5 §5) that time is actually a

relationship word that *cancels* space, or reduces our language to the simple trinity form.

The relativitists thus flatly contradict the truth. For the truth is, that when we explicitly use time with space, it logically cancels all three dimensions, instead of adding one and getting four.

The fact that none of us can possibly understand what a "fourth dimension" is, and that the relativitists themselves agree that they can not make a conceivable picture of it or actually point to it, is ample proof that relativity is fundamentally senseless.

Relativity then goes on to even worse verbal atrocities, or basic nonsense. It talks of space (*and* time, of course) as being not absolute, or as varying—in short, as being "curved". As we have seen, all sound relationship words are *absolute* (basically mean absolute identity), and Many words are not absolute, but are varying. The only *sound* "relativity" is the related-Many, or relative-Many—and *not* the relative-relationship which relativitists assert.

Relativity thus flatly contradicts all the principles of our everyday trinity language; and is nonsense *if* relativitists claim they are talking *our* language—and they do claim that.

In short, relativity takes *space* as being a Many word; and then because any Many thing is finite and varying or "curved" (is "relative", compared to other things), therefore relativitists hold that space is a material thing, and the universe, or One itself, is finite and "curved". Thus the relativitists claim to reduce *all* words to Many words—just as other scientists do (Chap. 5 §2). They thus simply destroy our language—although they claim to use our dictionary. They logically use the clucks of a hen.

So naturally we can't understand the relativitists. For strictly, they have *said* nothing. It is not possible to understand a statement that *logically* can't exist. Einstein is reported to have said that only a dozen men can understand relativity. If he said that, he grossly exaggerated. For not even one man can ever understand it—except in the sense that we all readily see that basically it is senseless.

You will therefore perhaps ask how it is that relativitists have successfully made some rough predictions of facts.

The answer goes back twenty years or more. Scientists had been holding that the earth passed through the ether (i.e., through whatever surrounded it), with absolutely no effect upon earth or ether. I.e., they held that there were two Many things, earth and its surroundings, which were absolutely without relationship. Of course, scientists didn't assert such miraculous absence of action-reaction in that blunt, clearly stupid way. They asserted it in confused technical terms that they couldn't clearly understand themselves (those terms are given in Chap. 21 §2).

Then, what is called the Michelson-Morley experiment showed, by actual observation, that whatever surrounds the earth really *is* dragged [some] by the earth—is *related* to the earth. So about 1906 Einstein began, in mathematical terms, to describe Many phenomena, putting in the action-reaction science had been denying. That was correct. And naturally, by thus correctly accepting actual relationship or action-reaction, he predicted some astronomical phenomena, the principle or possibility of which scientists had been denying—and which some still deny.

Specifically, Einstein predicted *numerical* results for three phenomena. In each case, the measured effect is extremely small, and hence it is highly difficult for observers to be sure that they have obtained such *numbers*. The results observed *definitely* show that the principle that there is *no exactness* in science, is true; but the results do *not* in any case agree well with Einstein's numerical predictions. Indeed, Einstein predicts *exactness*—which contradicts the very principle of action-reaction, or *inexactness*, he started with. For a summary of the discordant figures for two of the phenomena, see an article by the physicist Poor, *Forum*, June, 1924. And Curtis, astronomer in charge of the Allegheny Observatory, has reported that the figures his observers measured for the third phenomenon (spectrum lines) definitely disagree with Einstein's exact prediction (*Forum*, Aug., 1924, 277-8).

Hence, Einstein in a *rough* way has been successful in his predictions because he started with the correct principle. He didn't *hold* to that principle, and his *actual* predictions are not sustained.

Apparently neither Einstein nor any other relativist knew what he was really doing—knew that he primarily was dealing with a simple matter of language. So Einstein denied that there is any ether, or *Many* thing, surrounding the earth. He then actually had the earth reacting, not to a *Many* thing (say parts of ether), but reacting to absolutely nothing in any *Many* sense. I.e., he proceeded to treat space-time, or relationship (which he usually calls "motion"), as a *Many thing which is continuous* (a self-contradiction, of course). He made "motion" act as a "something", which would react with the earth.

Of course, to speak of continuous or infinite relationship or motion as something essentially identical with this *Many* or not infinite earth of ours, is to speak inconsistently, or without sense. Apparently Einstein saw that simple fact. So he first, in effect, regarded all our *Many* or finite things (such as the earth, or a yardstick) as being essentially the same as relationship—i.e., he verbally simply took a yardstick, not as being our ordinary *Many* finite yardstick, but as being anything and everything he pleased. He thus first had a language, which he calls the *special theory* of relativity, in which *all* words are *relationship* words—although relativists *claim* they are all *quantitative* or *Many* words. And that sort of language is practically the same as a language in which all words are *One* word. *All* its words are continuous, infinite, mystic.

That first language, or the special theory of relativity, therefore is a mutually *unintelligible* mysticism. That is why you can't understand it; it intrinsically simply is not understandable. In a few years Einstein himself intuitively saw that such a language would not communicate thought—was unintelligible. So he invented a *second* language, the verbal opposite of the first, formally containing only *Many*

words (but which he in effect claims are all One, or "*general*", words). Einstein calls that second language the *general* theory of relativity.

That is the present state of the relativity theory. It is two theories. And relativitists fail to reconcile, or really join, those two languages or "theories". E.g., in one, the velocity of light in free space is always the same; in the other, that velocity is always varying.

But even though relativitists in effect *claim* they use only Many words and One words, the obvious fact is that they also do tacitly use relationship words. So the first correction to be made to relativity is to *add* relativity—to add explicit recognition of relationship.

Then, with relationship words formally added, their language is a complicated *new* language, different from our everyday trinity language. It differs chiefly in that it *infinitely* duplicates what *we* call relationship words. So the last correction to orthodox relativity is to recognize that fact—including recognition that when the relativitist says in his new language that space is curved and has more than three dimensions, he *means* precisely what we mean in *our* language when we say space is an unending relationship of three dimensions.

Sound relativity would then simply be another language among the indefinite number of *sound* languages that obviously *can* be made by variously duplicating, reversing, and mixing our three sorts of words.

Mathematicians have been constructing such new languages for centuries. As they themselves don't see the true nature of such languages, they claim that those new logics are *our* trinity language, *and need no translation*. E.g., they claim we all ought to understand that *their* "fourth dimension" is, in *our* language, also "fourth dimension"; or that $\sqrt{(-1)}$ is an actual number like 3 or 7. But such claims are wrong. In *our* language, it is merely nonsense to say "fourth dimension", because that verbal name is self-contradictory—drops *our* dictionary.

In fact, mathematicians have made one new logic which they call "transfinite numbers", and have for years been quarreling among themselves as to whether there can "exist" any such numbers. That quarrel definitely shows that they are ignorant of the foregoing principles—are ignorant of basic mathematics.

By such quarrels (see Shaw's *Philosophy of Mathematics*, 78-9, quoting Poincaré; Whitehead, quoting Cantor, Peano, *Ency. Brit.*, XVII, 880a), they in plain effect publicly admit that they are professionally incompetent to deal with all such mathematical theories as relativity. This chapter shows definitely that they are incompetent.

CHAPTER VII

RESULTS AND BEAUTY OF VARIATIONS IN LANGUAGE

§1

THE principles of those innumerable super-trinity logics, of the super-languages which finally grow into the verbal complexities of relativity, are easily seen in what we call a fraction, such as $\frac{3}{4}$.

The mathematicians say that $\frac{3}{4}$ is a number, in the same essential sense that 7 is a number (*Ency. Brit.*, Art. *Number*). But 7 as a number is simply a generalized *Many* name, while $\frac{3}{4}$ is what we have called two factors:— $3 \div 4$, in which 3 is formally a *Many* word, and 4 is a relationship word that explicitly duplicates the relationship word \div . So $\frac{3}{4}$ is a *mixture* of language forms that *essentially* is *not* a number or *Many* name, like 7.

It follows that mathematicians, our self-confessed leaders in rigorous thought, are basically ignorant of logic or language. E.g., because they thus fail to recognize the principle that different sorts of words must not be treated alike, it is easy to prove by *orthodox* mathematics (such as that Art. *Number*), that any number is equal to any other number—i.e., to prove that orthodox mathematics is *infinitely vague and inaccurate*. One typical way (in which mathematicians confuse *One* words with *Many* words) is as follows:—

Let c and d be any two *different* numbers, with difference between them equal to e , so that $c - d = e$. . . (A)
Multiplying both sides of (A) by $c - d$, we have,

$$c^2 - 2cd + d^2 = ce - de \quad . \quad . \quad (B)$$

Adding $cd - ce - d^2$ to both sides,

$$c^2 - cd - ce = cd - d^2 - de \quad . \quad (C)$$

Or, $c(c - d - e) = d(c - d - e) \quad . \quad (D)$

Dividing both sides of (D) by $c - d - e$, or multiplying both sides by $1/(c - d - e)$, we have

$$c = d \quad . \quad . \quad (E)$$

And, as c and d were *any* two *different* numbers, therefore by orthodox mathematics, *any number is equal to any other number*.

The logical error which produced that absurdity is this:- Because $c - d = e$, then $c - d - e$ is equal to zero, or $1/(c - d - e)$ is infinity; hence, when we divided both sides of (D) by 0, or multiplied them by ∞ , we *indiscriminately* mixed One words (0 and ∞) with Many words (with the finite, *ordinary* numbers in that equation), and thus changed to some *other* language, producing an absurdity *in ours*.

Orthodox mathematics does correctly *vaguely assert* that, as an obvious *practical* fact, it is not proper to use 0 and ∞ in that way. Any child can see that it isn't. Some reckless, incompetent mathematical texts state flatly that division by zero is excluded. Then, they contradict their own rule by solving such equations as $x^2 - 5x = -6$, thus:-

Adding 6 to both sides, $x^2 - 5x + 6 = 0 \quad . \quad . \quad (A)$

Factoring, $(x-2)(x-3) = 0 \quad . \quad . \quad (B)$

Dividing both sides of (B) by $x - 2$, we have,

$$x-3=0, \quad \text{or} \quad x=3 \quad . \quad (C)$$

Dividing both sides by $x-3$,

$$x-2=0, \quad \text{or} \quad x=2$$

Obviously, both $x-2$, and $x-3$, are equal to zero; yet both sides of the equation *are* orthodoxly divided by those zeros, giving *correct* results, and contradicting the reckless mathematical rule. Hence, other mathematical texts *evade* making any clear or intelligible rules about the use of 0 and ∞ —thus avoiding reckless dogma, but tacitly admitting their ignorance or incompetence.

In short, mathematicians fail to say *why* it isn't proper to get the absurd result, any number is equal to any other number, in the way I did. They don't know why. Indeed, they actually, in stating their general principles (*Art. Number, Ency. Brit.*), contradict their own bare assertion that somehow it isn't proper, by saying that 0 and ∞ are numbers, just as 3 and 7 are. They thus basically contradict themselves as follows:- if the equation (D) can be correctly multiplied or divided by 3 or 7 (as it can—and it is orthodoxly agreed that it can), *then*, if 0 and ∞ are also essentially numbers as 3 and 7 are (as is orthodoxly claimed), then *any* equation can be correctly multiplied or divided by 0 and ∞ . But obviously some, like the equation (D), *can't* be.

Therefore, by their arbitrary, uncertain rules, orthodox mathematicians *tacitly* acknowledge the existence of One words, but simultaneously acknowledge that they know nothing about them, and make no effort to explain them or their use. However, mathematicians don't even tacitly acknowledge the existence of relationship words, two of which words are in $\sqrt{-1}$ (viz.: “ $\sqrt{}$ ” and “ $-$ ”), and superciliously say that if we ordinary people can't conceive such a “number” as $\sqrt{-1}$ (which involves a nonsensical statement like “brotherhood of motherhood”), it is merely because we are too stupid to “understand” mathematics.

The *correct* rules for 0 and ∞ , numbers, and so on, are given generally in Chapter 13—although, of course, not in conventional mathematical terms, as this is not a book giving detailed mathematics. They are given in the form in which commonsense men have for ages known and used them. Here I am merely giving the facts showing the professional incompetency of mathematicians, even in elementary algebra.

During the past ten years I have actually tried the substance of the last few pages on dozens of leading mathematicians—have published it for all mathematicians. And they can't understand it. So if you catch the idea even

roughly, you are proved to have a better mind than the best mathematicians—as of course you have, although that fact may not have occurred to you before.

When we have a fraction like $\frac{3}{4}$, or a so-called number like -2 , or $\sqrt{2}$, we with intuitive commonsense recognize it as a *set of factors*—a *mixture* of different sorts of words, which we must reduce to our trinity language before we may use them correctly, or even understand them.

All the mathematician's so-called numbers, other than integers like 1, 2, 6; and all his non-Euclidian spaces; curved time-spaces; "functions"; calculus; and so on; are simply more or less elaborated complexes, or *mixtures*, of our everyday three sorts of words. If those are correctly balanced, or *canceling*, mixtures, *then* those complexes *can always be translated into readily understandable statements in our simple trinity language*.

In short, if any scientist tells you he knows some truth that can be stated only in mathematics, he simply shows his own profound ignorance of language or sound mathematics. Many do show it.

Further, mathematicians *tacitly* try to reduce all relationship words to a dozen or so dry-as-dust words like $+$, $-$, \times , $=$. As a plain fact, mathematicians do use such relationship words, even though they deny relationship words. But those dry words, \times , $+$, $=$, are obviously so dull and poorly expressive as to make us sympathize with mathematicians' exaggerated claim that relationship words have no meaning, or with their even more exaggerated claim that there are no such words. Anybody can see that $+$, $-$, $=$ *are* pretty poor and thin words.

So whenever any mathematician engages in his favorite professional sport of waxing lyrical over the beauties and sublimities of mathematics, and its heavenly truth, he is actually raving over a dried-out, skeletonized, poverty-stricken language which he himself has two-thirds maimed and crippled by ignoring One words and denying relationship words. His adoration of mathematics is like the

gloriously pathetic love of a mother for an imbecile child—and we can't wisely share much of it.

§2

But those facts about the tendency of our everyday language towards a duplication and elaboration that forever comes closer to expressing fully the infinite truth, while forever retaining the trinity simplicity and economy,—all those unending possibilities of our trinity speech, and even the pride of the mathematicians in their own crippled skeleton of it, make us appreciate the extraordinary power and beautiful fitness of that daily language.

Those facts show us that this simple, but often supremely elaborate, language tool, which we use so constantly that often we become almost unconscious of it, is the greatest and most valuable invention of man.

A tool is something we use that in effect extends our body—increases the reach of one or more organs of our mind. A tool makes us *more* conscious, or gives us use or grasp of a larger part of the universe.

A lever is a tool. A railroad is a tool that gives us more or less definite access to a continent. A coat or a house is a tool that helps us use our environment better. Telescopes and microscopes are tools that increase our vision. An effective picture is a tool; for it makes us more conscious of, or more explicitly related to, or happier in, the One universe. A "business" is a tool made of men and factories, and so on, which gives both its customers and its makers various desirable relationships with the world.

Our usual names for the *making* (or manufacture) of tools, are art, invention, government, or business. The *use* of those tools, strictly speaking, is life itself. But we usually do not need to be so strict about verbal discriminations; and can say that the *use* is also art, skill, and so on. The more effective, or useful, or "beautiful" the tool, the "higher" the art, or the better the business.

Incidentally, because *men* are more obviously variable

than any other thing, the good or successful tools which are most difficult to make are organizations of men. Hence, business and politics are the most difficult arts. Politics has such a bad name because it is so difficult that it ordinarily is done badly. Some business suffers in the same way.

Language is the basic tool normal people always use. It underlies and accompanies the use of all other tools. Hence, in sheer 'size', or numerousness of parts or words, it is more extensive than any other tool.

Any tool, of course, by its very nature of acting as a 'relationship', may be said to 'imply' the whole universe: the tool brings the whole One more or less definitely together in our consciousness. But the language tool explicitly goes out, and more or less 'tries', to include that whole infinite regress. So language is the most complicated of all tools, but is at the same time extremely simple, consisting wholly of *The related-Many = The One*. Children can use language well—usually they do it better than mathematicians. But all the powers of the greatest man may be concentrated into a few words that change history.

Conversely, the infinite chain of relationship—all the "past"—tends to condense itself into a word. I.e., single words tend to "grow". The meanings or experiences of past generations tend to accumulate in some words; so that when we use the word it brings to us a crowd of memories, or implications, or 'relationships', that may extend beyond history. Some words "die", because their implications or 'emotions' become offensive, and we try to avoid such painful regresses.

New words, either slang or technical jargon, are usually unwelcome to us because they haven't a long-accumulated regress of meaning, and hence are thin and flat and shallow—in short, simply are poor words because they carry little "emotion" or moving force. But sometimes a new word has a large meaning awaiting its invention by some genius—e.g., *movie*.

At other times a poor, thin technical or slang word will

slowly take on life and meaning, and finally become a good word.

Because words are thus so flexible, so intricate, so simple, so powerful, and so continually used in every phase of our lives, we become fond of them, and depend upon them, to a degree we often don't recognize.

Usually we take conscious pride in having good tools and using them well: we know we are proud of running a good business, and we even consciously hate to part with so trivial a tool as a comfortable worn-out coat. But only occasionally do we notice clearly how we love our words:- When we encounter a foreigner who can't speak our language, we instinctively consider him inferior—a barbarian, who chatters an idiotic “bar, bar, bar,”—and only by an effort can we achieve a more sensible view. We have an inordinate hatred of certain slang words—when it happens that for obscure reasons they don't appeal to us. When we do take a fancy to certain words, we love them too much and over-use them. Indeed, we have more quarrels and fiercer quarrels over beloved words, than over anything else except perhaps money, a sort of tangible word. E.g., just now acutely, and generally since Luther, the so-called Christian churches are split asunder by their quarrel over the verbal inerrancy of certain writings. Even the dry-as-dust mathematicians quarrel bitterly over that same verbal question of exactness (they labeling it “number”).

So we actually do prize our language tool. We value it so highly that we steadily *act* in accordance with such valuation, and hence don't consider it necessary to mention such obvious love. We don't need to talk about language's sublime beauty. Only mathematicians need to cheer themselves by loudly chanting praises of their maimed imbecile of a language. For they do have a poor language, and an “inferiority complex” over it.

In addition to its direct usefulness and corresponding sound beauty, our language obviously has two other aspects of interest:-

(1) It is a sort of treasure house, and mine, in which

is somewhat accessibly stored the history of man, and his essential knowledge and thoughts.

(2) But more important than that, this greatest of all inventions has been made by the average man—chiefly by common men working together on it through the centuries. That shows the ability of the average man to do things right.

But the very excellence of the language tool, its very commonness, and the huge store of history and emotions it carries, all naturally serve to make its misuse and perversion as dangerous and destructive as its correct, honest use is safe and life-giving. A tool that is powerful for good is powerful for evil.

Nearly all our troubles involve a misuse of language in some way. In fact, as will appear, ignorance is the only sin; and it is almost impossible to be ignorant of *anything essential* without having misused the language tool in some self-deceiving way (see Chap. 30 §§3, 4).

Indeed, the extraordinary value of sound language has always so dazzled men not well ballasted with the common-sense of the average man, as to cause those bedazed “thinkers” or specialists to fall into the worst general error of mankind:— idolatry, or materialism.

Therefore, although we have now observed the essential features both of our language, and of the truth or reality it points out, I think most of us will be interested in going on and looking at various important details and applications. For in doing so, we shall agreeably see further, both the beauties of language, and the profound ability of common men in inventing it and preserving it steadily against the perversions of specialists. And at the same time we shall learn to use that most powerful tool better in securing our personal success, and in guarding our children against those perversions.

In the remainder of this Part I, we notice why specialists always tend to misuse and pervert language. In seeing those reasons we at the same time see how to avoid being misled and exploited.

CHAPTER VIII

FIRST GREAT ERROR ABOUT LANGUAGE: "EPISTEMOLOGY"

§1

A MAN who is interested in something pays close attention to it. That is what *interest* means. And the closer attention we pay to a certain thing, naturally the less attention we pay to other things. So a man who is enthusiastically a specialist is thus rather ignorant of most things.

Then, because the basic truth is that all things, or all the Many, are related together as a One, it follows that if we persistently remain a specialist we can't possibly sum things into the One and thus know the truth, or understand reality. Specialists thus stand self-condemned as necessarily ignorant fools, in so far as they are strictly specialists.

Yet mathematics has reached such a point of ostentatious specialization that one of its highest authorities, Russell, asserts it to be a science in which we never know what we are talking about, and in which we never know whether what we say is true. And that ultimate essential ignorance is widely quoted by his scientific colleagues with great approval as giving precisely the sublime goal they aimed for. It actually is professional incompetence. It is fundamentally identical with the view of Cattell and the *Encyclopaedia Britannica* (Chap. 1 §1), and obviously is specialism gone mad, openly claiming futility and agnosticism.

Of course, in actual fact, no man can really achieve any such absolute specialization. As children, all men do grasp the One; and thus acquire considerable commonsense which even as scientists they can never quite forget or ignore.

Russell's remark is merely a boast that mathematics has reached the extreme limit of specialization—and of course the boast is not quite true. Russell is not an absolutely specialized scientist or fool, even though he substantially claims to be.

But all that does show clearly the *aim* of orthodox specialism. Throughout history our alleged experts have considered it laudable to strive for that specialization which Russell boasts he has reached. That aim is plainly wrong.

Sound specialization, sound investigation or study of *any* particular thing, obviously (1) should consist of attending to it just as closely as we can, and, *as soon as we see something about it*, (2) should then *further* consist of relating that fact generally or broadly with all other broad facts. In short, the fact *must* be combined into the One before it becomes a genuine fact, or even intelligible.

By doing *both* those things we evidently at once (1) understand or *know* the fact, and also (2) guard against error, and make the fact (3) available or intelligible to others, and (4) applicable or useful. The truth is that scientists, by ordinary commonsense which they can't drop, do do that a little.

Plainly, orthodox specialism is a sort of egotism, or selfishness. The specialist takes *his* job to be as all-important and complete, as he takes his individual self to be. He gets all puffed up with importance, and jealously fences off what he calls his "field"—becomes the dog in the manger, and gets to believing in the divine right of kings, the "king" being himself, and his kingdom being his "field" of "expert knowledge" of perhaps the left hind leg of a fly. Such narrow knowledge is simply piffle—as well as being immoral and selfish. It *can't* be sound without being joined and *balanced* with all other knowledge.

So the primary *aim*, or ideal, of the orthodox "thinker" or "leader", is wrong.

We of course see that his very zeal and eagerness has led him into such error, and sympathize with him. He

started out to get "direct action", and reach his goal by "main strength and awkwardness". It is a natural mistake that we all often make. It becomes immoral only when persisted in.

But we take up the question of morality and responsibility later (Chaps. 17 §§2, 3; 29). Here we need to notice that this same mistake of specialism, or idolatry, has directly resulted throughout history in an essentially wrong orthodox logic or language.

I.e., before the dawn of history the intellectuals noticed that men communicate knowledge by means of language. So those intellectuals specialized in language. And at the beginning of recorded history there had already developed, as the result, two chief perversions or exaggerations, of language.

§2

As the first great error, those specialists attended so fiercely and exclusively to language, which *expresses* knowledge, that they concluded that language was all that was of importance, and that *therefore language is knowledge itself*.

The second error is simply another form of that first one. It is the error that from premises we can "reason" to a conclusion. There can be no such orthodox reason or "logic"—as we see in the next chapter.

Plainly, to hold that language, which expresses knowledge, is knowledge itself, is an error—a conclusion that does not follow. But in spite of such plain inconsistency, that conclusion persists among intellectuals to this day—as we shall see in this Section.

The explicit way in which that error (that words are knowledge) persists, is that it is orthodox to hold that *proof* is *verbal*. I.e., if anybody questions whether something is really "true", then our specialists claim that *proof*, or sure knowledge, is a matter of words.

The mathematicians are explicit and open about claiming that.

Other scientists are not quite so candid. They tend to be evasive, and in a pinch say they know nothing about what knowledge is (*Ency. Brit., Art. Science*). E.g., if those scientists are asked for a proof that electrons exist, they will, if we carefully pin them down, usually begin with a statement that some sort of electrified body, such as a *drop of oil*, has been actually observed to move in various ways; and then by a long and complicated mathematical (i.e., verbal) statement which involves many "laws", they "deduce" the "existence" or proof of exact or absolute electrons. Scientists then *say* that that is *observation* of electrons; although plainly, even by their own words, it is nothing of the sort, but is observation of a drop of oil; and further than that, is a *verbal* "proof", which is taken as being *real* proof.

As a matter of fact, there are no exact or definite electrons (Chaps. 23, 24): the scientists can't follow their own deductions properly. An electron is merely a changing, indefinite, inexact Many thing, that is *convenient* to talk about (as we shall see). If we happened to use *other* kinds of observing tools, it would be *more convenient* to divide the Many in a different way. In fact, we usually do divide the Many differently (as shown by Part II). An electron is a verbal convenience merely for a few physicists in certain narrow matters. When they make a *unique fundamental* of it (as they do), they are worshiping an idol—a rather poor sort of golden calf.

As further showing that intellectuals in effect still take words to be knowledge, we may notice briefly the views of philosophers and theologians on the subject.

Philosophers call the subject of whether words are knowledge, "epistemology". They still dispute whether epistemology (knowledge of knowledge itself) is logic (knowledge of *expression* of knowledge)—and if not, then ask what it is. Indeed, some are so confused as to dispute whether

epistemology is perhaps only a *part* of logic. They come to no conclusion (*Ency. Brit.*, Art. *Epistemology*). Obviously, that very statement of the basic troubles the philosophers openly confess, is evidence that they in effect take words to be knowledge, even though they are technically agnostic—i.e., technically give up the question as insoluble, which amounts to acknowledging their professional incompetence.

Theologians say that God himself gave us, *or* (and) now gives us through certain ecclesiastics as mouthpieces, certain words which really are knowledge—are “infallible” or “revealed”, the theological terms for *absolute*. Ostensibly therefore, theologians *officially* hold that words are absolutely knowledge.

As a matter both of practical fact, and of *strict* consistency, the theologians actually evade the question, and leave it unanswered, by thus loading it onto, or into, a supernatural God. For they don't say, or show, whether that *God* considers words to be really knowledge.

Probably the fairest summary of such glaringly conflicting practices and orthodox pronouncements is this:—*In practice*, intellectuals today consider knowledge to be words—they *act* as if they did, anyway. *In theory*, they all seem tacitly to acknowledge that there is doubt about the matter. Scientists and theologians theoretically evade it (theologians by passing the buck to God; scientists by passing the buck, but cowardly evading the question, To whom?). The philosophers honestly tackle the question—in huge books,—but give it up. They also overlook the fact that until the question is solved, no other question can consistently be discussed. For if we don't know what knowledge is to begin with, plainly we can't really have any knowledge about any subject, including the subject “knowledge”.

The average man from the beginning has known the solution of epistemology. That problem never would have arisen if the experts hadn't taken language too seriously. The solution is, of course, that words or language is only

a tool for *expressing* knowledge, and that knowledge itself is what is observed, experienced, lived. In short, knowledge is what we mean, or point to, when we say the related-Many is the One.

Philosophers raise many verbal questions about that simple solution the common man has always known. Those questions really all amount to asking *how* our minds work—and that is answered by taking a look at our minds, and *seeing how*. We do that in Chapter 28.

The common man has extremely clear and definite ways of expressing his sound solution of "epistemology". The first widely accepted American way of expressing it was, "I am from Missouri, and you have to show me". That attitude is plainly not peculiar to Missourians alone; so naturally it is now ordinarily shortened to, "show me". Those two words, with their usual tone of finality, therefore express more of fundamental sense or knowledge than is contained in all the books of the intellectuals.

Long before that better expression, "show me", was invented, common men expressed the same sound sense by saying that the proof of the pudding is the eating thereof. Centuries before that, the same thing was expressed:- "By their fruits ye shall know them."

Intellectuals overlook such commonsense. Scientists of course *claim* that their solution of this first of all questions is also "show me". But they in theory officially repudiate that claim by holding that science does not include the question of reality, and is not interested in such "metaphysics". *Also, they DIRECTLY repudiate their own claim, both in theory and in practice, by making "assumptions" or "hypotheses."*

No genuine or sound thinking makes any such assumptions. This book assumes nothing—except that you speak English; and that is not a real or *essential* assumption, but only an arbitrary convenience (for a given man can get this book translated into whatever language he does speak, if he speaks any, and thus still get its meaning).

The common man, with his sound "show me", *makes no assumptions, no hypotheses*. He sees or experiences the universe, and thus starts with it as "given". He starts with what he *knows*, and stays with it. He "assumes" nothing—i.e, he deals with nothing he doesn't *know* essentially. (Of course, he is always *guessing at quantities*: we come to that point repeatedly hereafter.)

Why should an intelligent person "assume" anything? Indeed, *how* can anybody *really* assume something? To do so is equivalent either to *absolute creation* of it, if it doesn't exist; or to entirely unnecessary stupidity, if it does exist:—Absolute creation of something from nothing is a flat, irreconcilable contradiction: also, it is something nobody ever observed. And if the thing does exist, then there is absolutely no need to "assume" it: it can be seen or experienced, or is "there", and it is far easier to look at it and thus *know* it, than to go floundering around, talking silly, misleading words about "assuming" it.

Orthodox mathematics, the accepted foundation of modern science, openly declares that it starts with (1) undefined terms or words, and (2) unproved propositions, or what are technically called axioms or postulates or propositional functions. (For proof that mathematics asserts such a start, see *Ency. Brit.*, XVII, 880; XI, 730; or any other orthodox authority; I quote such authority in detail in my article, *Monist*, Oct., 1924.)

Or, in plain English, modern science fundamentally does *not* use *observed* knowledge, although it claims it does. For it uses mathematics, which by its own declaration *basically* uses or starts with assumptions or hypotheses—starts with (1) explicitly meaningless or unknown *words*, and with (2) assertions about those words which are flatly said (by *all* authorities I can find) to be "unproved" or unknown (i.e., really meaningless).

Thus modern science really asserts that words are knowledge, but that that knowledge is absolutely created in, or as, those words *by the scientists*.

So obviously, the only difference between our theologians and our scientists, is that the scientists say that *they themselves* reconcile the irreconcilable, and the theologians say a *supernatural God* does it. Both by their *acts*, agree that *words* are knowledge. Both decline *fundamentally* to have anything to do with observation, reality, "show me".

Of course, intellectuals deny that they take *words* to be knowledge. Scientists are especially talkative about how they deal only with real things. And theologians are only a little less vociferous about their dealing with the ultimate reality, God. But I have now definitely quoted their actual, "inside" views, which flatly contradict their mere claims.

I am not accusing intellectuals of being liars—of deliberately trying to mislead us. I am merely showing that they are so stupid and incompetent that they don't even know themselves what their fundamental views, as shown by their acts, are. I am simply showing that the views they actually *use*, are wrong. They themselves don't know it. All this is a case of "Father, forgive them, for they know not what they do".

§3

It thus definitely appears that those orthodox specialists are basically idolatrous. They mistake words, which are the image, or symbol of reality, for reality itself. They act professionally as if words were reality. That is explicitly idolatry of words.

The basic purpose of the Christian gospel, or expression, of the truth, was to eliminate the error of idolatry or the worship of numerous substitutes, or expressions, of the One God; and to replace such idolatry with the sound One or monotheistic truth. The Gospels often call the idols demons or devils, and say (with perhaps more literalness than figurativeness) that men possessed of those demons were diseased, and that Christianity primarily casts out such devils or false gods.

Yet here we are, with most of our scientists, philosophers, and theologians possessed of the same subtle devils or idols: words, which they take as the One, or reality, or God. They are diseased or wrong or "sinful", like the idolatrous generations the Gospels tried to cure.

That's a queer way for me to talk, of course. We have a rather different vocabulary nowadays. We aren't so crude as to say bluntly that a man is possessed of devils. So I shall mildly conclude, in the polite terms of the day, that our intellectuals have got their epistemology wrong.

That means the same thing. Or, as the small boy felicitously expresses it, they are dumb-bells.

That idolatry, or idiotic basic error, with which our leaders are infected, the scientists perhaps worst of all, is a disease, a misfortune—a more or less mild sort of insanity, or madness, or absence of commonsense. So its victims are to be treated kindly, as defectives, and are not to be clubbed and abused as the insane formerly were.

Most of our older leaders will never be able to recover. Their brains are too much damaged by the disease ever to be able to recognize their condition. All we can do is to treat them with considerate justice, and let them die in reasonable peace and get out of the way.

I have learned by experience that most of our older intellectuals will not correct their basic errors. For fifteen years I have been pointing out those mistakes to them in a kindly and gentle technical language, specifically showing them the materialism or idolatry involved in what they usually call "exactness" and "hypotheses". I have not yet found a single older exact scientist who would abandon that error—although some could more or less recognize it. E.g., one of the most prominent physicists in the world, after agreeing that I had experimentally shown that he made a thoroughgoing error in science, told me frankly some thirteen years ago, that he was too old to learn the truth, and would continue to teach his old, wrong doctrine as being true science. I would name the man, except that

he told me that verbally, and I should perhaps have difficulty in proving it before a court of law if he took a notion to accuse me of libel.

Millikan, the physicist who recently was given a Nobel prize, wrote me publicly (and hence presumably with due care), that he agreed with my basic view—and then went right on publishing his same orthodox errors. Another Nobel-prize scientist did what, in less degree, amounted to the same thing. I shall give more of such details in pertinent places hereafter (see especially Chap. 20). If the intellectuals think that still more of such details are needed to prove the decay of our leadership, then I have documentary evidence of ten to twenty times more such cases, which I shall be glad to publish in their journals. I omit them from this book chiefly because this is not a muckraking book, in which you are offended with a lot of such stuff. Only the minimum that is required to make an honest book, is included.

A few of the leading older inexact scientists have worked out the general truth independently, and of course agree with common men. Numbers of younger scientists seem to agree with the view of this book.

But so far as I know, none of those men have published such views in intelligible English. I have waited friendly and patiently for fifteen years to let intellectuals correct their own errors if they will. They haven't done anything effective in that way, so far as I can see, although perhaps three or four are trying to do something.

There is a point at which patience ceases to be a virtue. So if the intellectuals tell you that I am too hasty, you can ask them just how many more years we average men should continue to let our children be misled, waiting for intellectuals to correct themselves.

It is rather plain that you can't expect professional "thinkers" to teach basic truth right away. If you want any sound fundamental thinking, you will have to do it for

yourself, in the face of either silent contempt or active opposition from most professionals.

Also, if we don't want the intellectuals to make idolaters and mental defectives of our children, you will sometimes have to give your own a little help in protecting themselves against intellectuals.

Of course, our leaders didn't fall into, and persist in, that idolatry of words in any such direct and plainly idiotic fashion as I have just described. They concealed the error from themselves by putting it into a more complex form, which I have called the second great error, and describe in the next chapter.

CHAPTER IX

SECOND GREAT ERROR ABOUT LANGUAGE; “LOGIC”

§1

INTELLECTUAL specialists apparently prehistorically observed, as did the commonsense man, that truth or knowledge finally consists of seeing that the Many is *related* or summed into the One (as we saw in Chap. 3). But being unduly attentive to language, those specialists seem to have confused themselves into holding that somehow the *relationship* is essentially *in words*, rather than *in the universe*.

Or, specifically, at the dawn of history the intellectuals were asserting that “reason”, or “logic”, or “intellect”, or knowledge, or reality, *is* a stringing of words together—or, as they put it in their technical jargon (*Ency. Brit.*, Art. *Logic*), reason consists of inferring from at least two premises to a conclusion.

Their first great error was, and is, that language is reality. Their second error is the same error of idolatrously mistaking words for truth. The second error merely expresses itself differently—says that the *use* of words, or “logic”, is “reason” or reality.

What I have arbitrarily called the first great error consists of taking language in its *static* (“existential” or One) aspect as being truth. The second error is taking language in its *dynamic* (‘relationship’) aspect as being truth.

The *whole* truth is that language, like every other thing, has three aspects (One, Many, relationship), which can *not* be soundly separated. Our intellectuals stubbornly omit the Many aspects of language. They deify language, and refuse to see that *language itself* is subject to scientific observation, and division into Many parts. Scientists are

rather ridiculous in their inability to see that *words* are things, and *can be observed*. Like theologians, they act as if their deity is so holy as to be "above" investigation—thus showing slight confidence in such deity.

Obviously, the *use* of words is not truth. Sound logic, or good reasoning, is merely the *expression* of truth in a mutually intelligible way, *after* we have observed or experienced that reality.

The easiest and clearest way to see that the experts are quite wrong in fancying that their orthodox logic or reason is either (1) truth (the One), or (2) essential in obtaining truth (relationship), is to notice what sound reason, or *proof as given by words*, actually is.

We *know* or see the universe as a One; and for practical life we also see it in the opposite aspect as a Many, which Many aspect however we see, with completing truth, to be related. We *express* that complete reality by saying, in some form of words:- the related-Many is the One.

That *form*, or mere *collection-of-words*, is obviously *real* logic. It obviously does not, as is alleged by the experts, proceed from premises to conclusion. It does not make any *inferences*; and in no way "reasons" in that orthodox sense of "inferring", or moving in steps. We *observe* directly; and then directly *say* what we observe. And, *if* we have done that saying correctly (i.e., consistently with sound principles of language), then the form of the saying, our language or logic, *says absolutely the same thing twice*. I.e., it says *Universe = Universe*. Specifically, it says *The related-Many* (which is one way of saying universe) is *The One* (which is the other way of saying universe); or *Universe = Universe*; or *A = A*, *A* being anything.

That tautological repetition of precisely the same thing is called a *truism*.

We thus see that *real logic*, or genuine *verbal* proof, *consists of definitely reducing our statements to a truism*—to the final general truism, *The related-Many = The One*; or *Universe = Universe*; or *A = A*.

Or, all of our language, if it is sound, or logical, or reasonable, consists of saying precisely the same thing twice. We say that the universe or whole, named or worded in the *related-Many* aspect, is the universe or whole, named or worded in the *One* aspect. That is obviously *all* that real logic or reason is:- *verbal truisms*.

Clearly such sound logic, or *verbal* proof, is absolutely the opposite of what specialists hold logic to be. They hold that we must "infer" in order to prove; that we must *connect* premises together; that we must proceed step by step (*either* by "induction", *or* in the opposite direction of "deduction"), from a *beginning* to an *end* or conclusion. But actually, in *sound* logic we take the facts in *as a whole*.

Contrary to all commonsense or ordinary sound logic, intellectuals hold that a truism is substantially *useless*, and they frown severely upon repetition or tautology.

The fact is that there simply is no such thing as the "logic", or "reason", orthodoxly asserted by our intellectuals. We simply do not, and never did, and never can, "reason" as they say we do, and should.

Throughout history the commonsense man has resisted the specialists' idolatry of language by the simple method of declining to take "logic" seriously, or to rate "reason" or "intellect" very high.

Three centuries ago, in the time of Francis Bacon, scientists too followed that commonsense of the average man, and rebelled against the current idolatrous logic or "inference", and tried to adopt a "show me" principle. But the scientists timidly went only half way—dividing orthodox logic into inductive and deductive, and claiming to use only inductive. However, "inductive reasoning" is as wrong in principle as "deductive"—being merely the same step-by-step "reasoning" proceeding in the opposite direction. Both are wrong, as thus orthodoxly separated.

Sound or trinity logic is the *simultaneous* use of *both* "induction" and "deduction", and hence is neither *alone*. Or, sound logic says the same thing twice:- once in the *One*

form ("deductive"), which is then equated tautologically to the related-Many *form* ("inductive"). Sound logic goes *both* ways, *all* the way (i.e., to zero and infinity, or the One), simultaneously—and hence goes neither way *essentially*, or does *not* infer, but merely *says* what has been *observed*. Sound logic makes no assumptions, no hypotheses, no premises. In short, there is no such thing as the orthodox logic, or reason, or inference.

As further evidence that intellectuals actually do take logic, or the use of words, as being reality, do idolize "reason" or "intellect", in the rest of this chapter we notice a few everyday errors they derive from such a wrong beginning.

§2

Because the intellectuals take it that truth *is* thus a step-by-step or premise-by-premise process, it follows that there must be a *first*, or primary, or ultimate, premise. For, "step-by-step" truistically implies that we go back to a *real beginning*. Therefore, they hold that even the universe has a beginning and end—hold that there is really a First Cause, which itself has *no cause*.

Or, what amounts to the same thing, they hold that there is a supernatural or *uncaused* God, apart from, and different from, or *unrelated* to, the universe, who at some remote time caused the universe.

Or, what still amounts to the same thing, they take it that there was a first intelligence, which is a Purpose that exists only in that no-time before time started, and runs everything that has happened *since*. There is, in a sound sense, a purpose in the world (see Chap. 24 §3) ; but no such orthodox Purpose, existing before the universe.

All those truistic or necessary conclusions which flow from the orthodox error of taking logic to be truth itself, are so commonly taught that we don't usually notice that they actually amount to having *two* universes or Ones:-

the first, which is totally unexplained, acting as an "explanation" or "reason" for the second one we are in.

Those two Ones or two Gods are actually the two first premises which the intellectual idolators need, in order to get their "logic" to work. We *observe* only one universe. So they simply "assume" one more premise—a totally supernatural, separate, and inconceivable One, making Two which they say is One—or else say is a "mystery" (as it plainly would be, if taken seriously). There is a God; but there is no such absolutely unintelligible, unexplained, useless First Logical Premise.

§3

That First Cause, or first-premise God, is usually laid at the door of "philosophers" and "theologians". When our "scientists" begin to idolize logic in the same way, the verbal results are unfamiliar to us; so we readily see how ridiculous such scientific "reasoning" is:-

The First Cause to science is a store of "energy" at high potential, or high "power" to act, which will "cause" things to happen. That is obviously the same in principle as a supernatural God or Purpose. Some scientists see that; so science verbally officially denies "cause"—but scientists go right along and practically use that assumed store of energy or First Cause, thus:-

Science deduces the "fall of man", just as the theologians do—but in different words. Having assumed that first logical premise, or energy at a high temperature (corresponding to a supernatural God), science by the usual orthodox "reasoning" finds that it *runs down* (just as man "fell"). Technically, the second law of thermodynamics, or increase of "entropy", is science's final conclusion that energy, and hence the universe, is running *down* to nothing, or to an absolutely static, lifeless condition.

But science also tacitly takes the universe as being nothing but an immaterial Plan or Purpose to begin with, and

then by its *other* law, usually named *evolution*, the universe runs *up*, or develops or grows. That obviously is equivalent to the theologians' salvation by grace.

Therefore, scientists, as a natural result of idolizing logic, have a universe which they say is always running down as a whole, but which they also say is always running up. Obviously, both can't be true. To hold both is silly.

The actual truth is that we can define "up" and "down" in any way we like; and the universe will always be running up in some *part*, and equally or balancedly running down in some other part, but *never* going in *any* direction *as a whole* or One (for time and space, up and down, or direction, does not apply to the One, or God). Or, the truth is that God runs himself, and is the universe, which includes us—all of which we shall see hereafter in clearer detail.

There simply is no such thing as a First Cause, or *supernatural* God, or a universe running down as a whole (fall of man), or evolving as a whole (salvation by grace). To assume such, is simply to assume an unnecessary premise, in order to make the wrong, idolatrous "logic" work; and is an arrogantly belittling depreciation of our real universe or God, and of our superb language. For our God or One is such that he can run himself, without having our "logical" experts "create" something to make him work. Obviously those "thinkers" became so puffed up with conceit that they in effect were not content with the real universe or God, but had to "create" a "better", supernatural one of their own.

So naturally, commonsense men have for ages looked with suspicion on such logic—and such overweening conceit in our leaders.

But in spite of that, intellectuals have so unanimously idolized the process of language, by attaching time and space, or first and last, beginning and end, to God or the One, in order to have a first premise to make their syllogisms work, and make scientific evolution, and reverse running-down, and other logical atrocities, work—the ex-

perts have for so many centuries thus confused the truth, that most of us commonsense people also become somewhat confused when we look at truth from this point of view.

The experts have managed to perplex us somewhat by their idolatrous double-Gods or two-universes doctrine of premise-by-premise logic. Two practical points are at once raised by our perplexity:-

§4

(1) The first point concerns human sympathy and tolerance. Our intellectuals in effect inherited this idolatrous error of mistaking words for reality or God. All of us were taught the error in youth, and none of us have totally escaped damage or confusion by it. So all that we may justly do is to condemn uncompromisingly the error itself, and make reasonable efforts to throw it off. We should sympathize with the older men whose brains are so damaged by it that they can never escape from it.

And we ought to remember, in mitigation, that our scientists three centuries ago did try to abolish orthodox logic. But unfortunately they were too exaggerated or specialized, and hence lacking in the human sympathy and tolerance here suggested, and rejected "logic" or "deduction" so violently that they went to the opposite extreme and fell back into the same error, under the new name "inductive reasoning"—and in addition acquired some new follies which we are noticing.

In spite of all that, most scientists retain some commonsense acquired in childhood; and in practice have made some highly useful discoveries and inventions, as a result of their attempt to abolish "logic." It is quite true that those scientific "comforts" and "advantages" are as likely to be misused as to be properly used. We kill ourselves with them in wars, over-stimulate ourselves, and so on. But on the whole we needed to have somebody make the errors science has been making, in order that we might

learn by such trial and error. Thus we owe considerable gratitude to the scientists who have unwittingly spoiled themselves to our benefit.

So I ask that you remember, when I proceed to smash and ridicule their *mistakes* with uncompromising intolerance, that I sympathize with the individual benighted intellectuals who make those mistakes. As a fact, in the past I myself have taken most of their errors seriously. Thus I know just how to punch the foolish intellectuals in their weakest, tenderest spots—which is why I can be so clear and convincing. I simply call your attention to the crucial facts. You see the facts for yourself—and *they* convince you.

§5

(2) Because all of us are somewhat rattled by classic premise-by-premise logic, the second practical point is, that therefore we ought not to expect to drop classic logic instantly, and take in the sound trinity logic at one gulp. We can't do it. The needed changes in verbal *habits* are too numerous.

The doctrine of the Christ nineteen centuries ago, and of Confucius and Buddha twenty-four centuries ago, tried to show the wrongness of idolatry or materialism, and substitute for it the trinity logic or monotheism—and do it all at once, so to speak. The result was that few people ever *definitely* understood such truth—the experts least of all (see Part III).

We common people can all readily see that *real* proof or knowledge consists of observation or experience of the universe itself (*including* words, as they are a part of the universe); and that *logical* proof consists of finally *expressing* such observation in the form of the self-evident truism, *The related-Many = The One, or God, or A = A*.

But we are so used to the experts' classic logic, which (1) erroneously claims to *be* truth, instead of merely to

point to truth, and (2) proceeds essentially step by step, in the way we observe the Many or materials, so that it is materialistic or polytheistic and has no place for a real God or One, but "assumes" a *temporal* First Cause—we are so accustomed to such classic logic that we can't drop all its numerous familiar implications at once, even though we know we should.

As an obvious fact, our trinity logic is explicitly "*circular reasoning*". It begins with the One, circles around through the Many, and ends with the One. It sees to begin with, that the universe has its parts *all related*. So it begins with the universe, expresses it as related parts, and then comes back to the sum of them as being the universe.

But all our lives we have been taught that circular logic is bad logic—that we must go step by step *from* something *to* something else.

We have thus been taught that the truth can *never* be finished or *really known*—and also, that whatever we *can know* is identical with the Many, or is *material*, the real God or One being a supernatural *mystery*. We have never been told that circular logic is sound logic.

So all the basic teaching we have had from the intellectuals has been wrong. All the verbal formulas we have had to memorize, have led us astray in so far as we paid attention to them, and failed to observe for ourselves and scorn "logic."

If we look over our "beliefs", we shall be surprised to find how many are perverted by those formulas of classic logic. For over a dozen years I have known clearly what the sound logic is, and have been trying to straighten out my thinking. Long ago I got important things clear and consistent; but even yet I often tend to use classic-logic verbal formulas that confuse in details.

The food we ate in the past we can not un-eat. We can not now, by seeing in general that trinity logic is sound, and the experts' step-by-step logic unsound, take in the whole truth, and reject all at once the numerous wrong formulas

that, in spite of our commonsense, we have incautiously accepted from the experts in the past. Those errors which we took in partly killed us. We can become more alive only by assimilating truth gradually. We can't reject "error" wholly—for "error" is *not* "something", but is the *lack* of life or genuine truth.

We must use trinity logic simply as a general guide, and by looking at parts of the universe, build up a *related*-Many that we always see is the One. The remainder of our book will mostly be a statement of the important details of life from such a point of view.

We ourselves shall never be able to restore to life all the parts of us that were killed by our accepting idolatrous lies. But even though the materialism, and conceited selfishness, of science got us into the world war, still we can find great personal joy in letting our commonsense rebuild, as far as it can, our damaged selves. Many men can build up their lives or happiness to unsuspected heights, far beyond anything they reached in childhood, in spite of the fact that they have been somewhat spoiled or crippled by orthodox materialism.

But even those of us who are almost as hopelessly damaged as are the older intellectuals, ought to have strength enough to see in general that trinity or monotheistic logic is right, and thus be able to give our children a chance to learn the truth.

We ought to protect our children against being taught the idolatrous logic of our leaders. We ought not to offer them the poisonous mental food that has somewhat damaged all of us.

CHAPTER X

GRASPING THE ONE OR RELIGION; OR, LIFE AND HAPPINESS

§1

BEFORE going on to get a practical, working grasp of reality or life more abundant by looking at important details of the whole reality, it will be useful to notice in this chapter what that whole grasp of the One will mean to us, and will give us.

Oppositely, in the next chapter we notice the general damage our leaders' idolatry does to us—how we fail in the degree we accept idolatry.

In brief, in this chapter, we see what religion, success, or happiness is; in the next, what irreligion, failure, or materialism is.

We have a number of names for our state of mind and body that results from our seeing, with various degrees of intensity, the whole truth, *The related-Many* = *The One*. A few of the more usual names are these:- religious experience (meaning some degree of exaltation or ecstasy), salvation, rebirth, new birth, ecstasy, felicity, bliss, rapture, happiness, joy, heaven, ravishment, orgasm, passion, transport, rhapsody, intoxication, inspiration, sense of power, sense of invincibility or greatness, creative or artistic joy, ineffable peace, being One with God, mystic union with God or Christ or Brahma or the saints or nature, convulsion, fit, frenzy, mania.

In short, to grasp reality is to grasp or get life. (That is proved by Part II to be *literally true*.)

From a Many or practical point of view, that life may be in such excessive quantity that our finite bodies can't endure it for *much time*. (That is the subject of the next chapter.) But as a direct One truism, the more completely or intensely conscious we are at a given time of the infinitely related Many or the One, the more our life or consciousness *definitely* includes—the more we are alive.

We shall see that the object of life is to live—that the “good” is finally that which gives life, including “material” goods (Chaps. 30; 24 §4; 28 §4). So our final object or desire is to get life intensely or fully, or to “make a living” in the completest sense—and that is the same thing as knowing or *experiencing* the One. “Value” finally is:- more or less intense consciousness of the relationship-of-the-Many-into-the-One. Value finally is life itself.

As we saw (Chaps. 6, 7), we can know the infinite Many or the infinite regress of relationship, *in general* or *broadly*. But we, as finite individuals, can not actually see, use, and name all the possible parts of that infinity. Truistically, (1) our individual grasp of the One varies in intensity at different times, and in different individuals. Also, (2) the particular Many things or relationships we *start* with, in grasping the One, vary—we grasp the One from different points of view.

The foregoing list of names of our supreme grasps of life indicates such Many (1) variations in intensity of grasp, and (2) variations in point of view, or “start”, of the grasp. We have all experienced some degree of ecstasy—have all been happy from some aspect. So the discussion in this chapter of some of those degrees and aspects will show each of us how he can get whatever value, or happiness, or success—whatever abundance of life—he actually wants.

As was clearly implied by such names as convulsion and frenzy in the list, we *can* achieve an intensity of life or “success” that is beyond the strength of our bodies to endure long. We should have to pay for an experience of such

abnormally intense life by dying earlier—perhaps almost at once.

Most people do not actually want highly intense life or “success”. They would not care to pay the price of dying rapidly for it, and their families and the rest of us could scarcely afford to let them pay. Yet some thoughtless people day-dream of getting extremely ecstatic Utopias—as do our bright young novelists who solemnly wail that Main Street isn’t continuously headline screams. They are like the entertaining little dog who chases a train, overlooking the fact that if he actually caught it the result would be disastrous to himself as a finite individual.

§2

The most common ecstasy or definite religious grasp of the One that we experience, is to “see a joke”.

In the crudest comedy, of seeing a man slip on a banana peel, we notice (1) that he has temporarily let the Many parts of his life get beyond his power to relate properly, and further notice (2) that *we* have our Many parts in proper relations. So our resulting conscious grasp of our One, in which banana peels are all properly related to keep us normally living, gives us a surge or ecstasy of mental energy or joy, which overflows in the activity of laughter.

All humor, in character, is basically the same as that. Most of us prefer that the One which the “joke” brings to our attention, be wider and more intense than a One which primarily includes banana peels in their proper relationship. But our more or less quick, and intense, relating of the banana peel, brought to our attention by the falling man, is *essentially* humor, is essentially a mild ecstasy, and is the *quantitative* beginning of conscious religion or success.

Most of us then quickly see *further*, that the hurt of the slipping man is *somewhat* a hurt for the whole race, and thus for ourselves. In that slightly wider sense, the falling man changes from comedy to tragedy for us.

But we next see still more widely into the One, by seeing that the tragedy involves only a little time and space, while the whole One serenely remains related. Thus we again even more intensely and widely grasp the One, and have a *second* joke—a joke on our time-and-space selves: a tragedy we transcend by religion or humor. Obviously, *both* jokes, both ecstasies or joys, are genuine successes or happiness. Such jokes, or rebirths, truistically duplicate themselves in infinite regress.

Therefore, anybody who has seen a joke has definitely experienced or seen essential truth, and knows for himself, of his own observation, what a grasp of the One is. He has had precisely the same sort of experience (perhaps in a milder degree), as the most transported religious mystics, or as artists or discoverers in the “divine frenzy” of inspiration. He has experienced in some degree the “value” of life—has *consciously* tasted reality or life itself.

We have all seen jokes. Some people don't see them so well as others. But even those who are technically idiots usually see the banana-peel joke. Most of us see the “second” joke of any ordinary joke—see the pathos or tragedy of it, and rise above that in a more intense experience of life in which we see the joke on ourselves.

Our despairing agnostic intellectuals, our novelists who are overwhelmed by the alleged tragedy of Main Street, and the Russians who drown that tragedy in slopping-over seas of sympathy, merely are unable to see the “second” joke. We can serenely and enjoyably see that those mourners are a joke on us—but they can't.

So all of us essentially understand this book. We all really *understand* what I mean when I talk about the One and its Many expression, even if it does sound verbally unusual at times. We know that it is a tragedy for us that our intellectual leaders have failed. But we easily rise above that sad, but minor, accident in the human family, and find it amusing to watch their gyrations upon the slippery banana peel of logic—or upon what they prefer to

call by the highbrow names *hypotheses* and *revelations*. We could enjoy the spectacle much better if we merely pull our children to one side out of danger, so that the slipping intellectuals won't fall on them and squash them.

The people who object to humor as being something light and trivial are simply those whose own sense of humor is too small to see a joke on themselves; who see the tragic opposite of all jokes, but are unable to transcend those and grasp the full One; who are unable to see that any joke, like relationship, runs on in infinite regress to God himself, even if it does begin in some equivalent to the banana peel joke.

Most of our intellectuals hold humor in low esteem, especially the theologians, philosophers, and mathematicians—which shows what sort of men they are.

§3

But the ways of grasping the One which we work at most steadily, are business, and matrimony or domestic life.

The really successful business man is the one who likes his business—and gets “health” out of it. In various ways he manages to become conscious that he is definitely relating the world together, and that people are somewhat depending on him. In short, he sees or grasps the One in some measure—by his actual experience realizing that his life extends out through all the One. That *is* life, or “power”.

In the usual business, that grasp is obviously more or less directly measured by the money made. Then money, reversely, gives a relationship or power with other men or businesses. Therefore, as a usual thing, the amount of money made is a fair measure, and sign, of success.

Of course, in a new or highly variable sort of business, in a monopoly, in a tax-protected business, or in a crooked business, money-making is not a direct, or reliable measure of success. If such a business makes money, that may be a sign of success; or it may be the opposite. So we have

to know rather well *how* a man got his money, before we can safely judge him by it.

Most people probably get their best grasp of the One in matrimony. Obviously, courtship is a more or less intense effort to bring about definite relationships, and achieve a standard One—and has some measure of realization. Then sexual intercourse, under proper conditions of friendship or mutual responsibility, builds up widespread and also intense conscious relationships, and constitutes probably the most intense normal or healthy experience of life or the One.

So far as I can observe, it takes several years after the wedding for a couple to build up a sufficiently definite grasp of the One to become most consciously or intensely married. If that observation is reasonably accurate, it shows that monogamy is desirable. For otherwise a genuine experience of life in this probably most intense normal way would be practically unobtainable. That is also the observation of most of the race. For fishes, worms, and so forth, and for abnormal humans (e.g., pirates and obscene novelists), probably monogamy gives no such benefit, and hence for them would be undesirable or not moral.

Of course, if a wedding is followed by a decrease in Oneness, then as an obvious truism marriage increasingly ceases to exist: and at *some* quantitative point in that process any legal or theological assertion that the marriage still practically or perceptibly exists, is, as a Many fact, false. Those who hold that divorce is never allowable, or is allowable for only certain specific acts, are therefore truistically absolutely wrong in principle—and hence are immoral and irreligious. The *quantitative* question as to when a divorce is advisable is a never-ending one: it would take a volume to consider its important details.

And less intense than sex relations, but more extensive, is the grasp of the One, or experience of life, which marriage gives in *children*. I know of no sort of work or adventure in which a human being can engage, that can give a more thoroughgoing grasp of the One, or a wider ex-

perience of actual living, than helping and watching children live. Our intellectuals and brilliant novelists overlook that—it is too “common” a fact for their mettle. But I first found the nature and structure of language (ignorance of which is the prime stumbling block of intellectuals), by watching and helping a child learn to count.

Not only are those principles plainly true, but the practical fact is, that most of us do properly get our chief ecstasy or happiness or life from business and domestic activity. We spend most of our time and money on our family and business; and what little is left over on humorists and others who help us to experience the One—not the least of whom are good cooks.

Obviously, we common men are right in our judgment of what usually are the greatest values, and of the best ways to get such value or happiness.

§4

Naturally, any kind of work, any sort of effort to grasp the One, will in principle give some degree of rebirth, or salvation, or consciousness of infinite life, power, or unity with God.

If we with clear consciousness know we are directly seeking that One, the *effort* or work is named *prayer*. In that self-consistent sense, prayer is of course effective, and will be answered—will yield any and all supremely valuable things.

For truistically, in that proper sense of prayer, the man who prays would never try to get anything but an infinitely joyous consciousness of Oneness, and a corresponding desire to follow, or abide in, such infinite relationship or law.

But the theologian who gets up and mouths a few verbal formulas addressed to some supernatural God who is merely a first logical premise, asking that logical premise for rain, isn't praying in any genuine sense. A real prayer for rain consists of seeing the relationships of rain, and then of actually trying to follow them.

So if we *know* that our everyday domestic and business life is an actual effort to grasp the One with more or less intensity of happiness, then our everyday work is a prayer. It does seek infinite value, with a certainty of happiness or success in proportion to correct effort. Most of us know that—at least intuitively. Indeed, we with further sound intuition, follow a correct method of trials, or agreeable experiments, at grasping the One, which is actually *worship*—although usually we call only a few kinds of those trials, worship.

To “grasp” *The related-Many = The One*, obviously means that at some given time we have become conscious of a comparatively vast lot of Many facts or experiences, and then more or less suddenly we see that they are all related together into a One: we suddenly “see the point”, grasp the meaning, or see the joke. As we accumulate the consciousness, or ‘seeing’, of those Many things, we accumulate a nervous tension, or nervous energy. Then, the “relating” of them together, the seeing of the meaning, is a somewhat rapid rush of all that nervous energy into one whole—probably along “one” nerve path. It is like an electric shock (it actually is one; see Chap. 28). It is a “thrill”, or is intense living, overflowing energy, life in abundance. We simply bubble over with life, or ‘value’. We may “burst” into a laugh; or explode even more, into any of the great deeds of mankind. All men who accomplish much, consciously have such momentum and joy, or religion.

Ordinarily, (1) the Many details of our everyday work sum themselves into formal or restricted standard Ones, and give us only a mild thrill. Also, frequently (2) those Many details are so numerous that we *can’t* sum them very well—we don’t see what they do mean or “see what it’s all for”, and can’t become conscious of any *infinite* value in them. In both cases we are likely to overlook, or fail to experience *definitely*, the happiness in life—are likely to fail somewhat: are likely not to see clearly that we *are* alive.

Therefore we need to get conscious experience of grasping the One by some rather sharp, emphatic summing of the Many. We need to "*practice*" at getting thrills by using something easier to see the One in, than is everyday life. When we thus learn, by experience at what we might call minor grasps of the One, what happiness or success is, we naturally are able to sum our everyday life, or ordinary wider experience, in the same way, and recognize its *more* extensive summing or joy.

There are many ways of taking such "*practice*" in religion, or of "training" ourselves to see the One definitely. We need to train ourselves in religion or fullest living, just as we need to train ourselves in anything we wish to do well.

We can try to grasp the One directly by going to church, and having the preacher help us sum the Many immediately into the One or God. But theologians have mistaken a first logical premise for God, and therefore are more or less conscious of their failure to give us (or even themselves) any ecstatic One experience by their preaching.

So theologians add *ritual* to their preaching, in order to give the experience of God which that preaching nowadays usually fails to give.

During our lives various teachers impressively and solemnly impart to us certain verbal formulas and other gestures, which they assure us *mean* the One or God. Usually our mothers impress upon us (mostly emotionally) that such a routine or ritual gives us the thrill or ecstasy of God. So when that *ritual* is added at church, usually aided by music (which itself is *all* One 'words'), we get some mild thrill of the One.

But usually the preacher then adds his sermon about the First Logical Premise, and puzzles us (unless we understand about logical premises, and his own age-long bewilderment over them). He thus probably neutralizes and spoils our ritualistic thrill. When Bryan and the Fundamentalists insist that we must take the Bible literally, what

they really mean is that we ought to rely *solely* on that *ritual*, or collection of words called the Bible, to give us a One ecstasy—*because* it does spoil the thrill to add either orthodox science or modern preaching about a First Logical Premise.

In that real meaning, Bryan and the Fundamentalists are obviously largely right. They simply do not go far enough, and see that unless we can and do connect *their* ritual with our daily life, then we are liable to conclude that our daily life is a failure, is “worldly”, and a sour evil to be endured, has nothing to do with joy, and that a future heaven is our home. Through the ages that same controversy has raged between people who wanted more ritual, and people who saw the dangers of too much ritual and wanted less.

Thus church-going exists for the purpose of getting an ecstasy of God, a thrill, getting stimulation (“pep”), “inspiration”, or life more abundantly. We call church-going, *worship*. Obviously, any other way of getting a quick, intense experience of the One is essentially worship also.

Church-worship plainly is sound in principle. Many generations of commonsense men have testified that it is, by practicing it. Its difficulties are practical ones which theologians find increasingly hard to meet:-

First, the preachers have consciously puzzled themselves so badly by substituting a first logical premise for God, that usually they can't sum the Many even for themselves (Part III). Second, a ritual, like a joke, steadily “wears out”, or fails to give the thrill it first did. And last, a ritual to be effective *must*, like a joke, have a meaning or point, or *usable relationship to our daily life*. But orthodox ritual, because theologians are confused over their first logical premise, has been steadily losing its point, or practical Oneness.

So the church is failing (some preachers say it has failed), not because church-worship is unsound in principle, but because theologians are confused, and unable to apply its principle. As a result, commonsense men have more and more worshiped in other, less conventional ways.

We have already noticed that we worship, or get intense grasps of the One, by means of jokes—paying the humorists more than preachers. Similarly, we get thrills, and a sense of power in a mild way, by *play*—by playing games ourselves, and by watching games and contests.

It sounds queer to call attending a baseball game, worship. The experience of ecstasy or One exaltation from the game may not be high—although comparative attendance figures would indicate a higher degree than that obtained at church. But attending a game is essentially worship in a mild degree—as you will probably see if you will consider just what it is you pay for in baseball.

We get the same minor experience of the One from rapid motion—say in a motor car, especially if we drive the car ourselves and thus more directly sense its power.

But our most usual way of worshipping, is by having others sum the Many into a One for us, by means of printed matter, music, the stage—by “art” in general. The Ones which we grasp by thus following the guidance of other men, vary all the way from the simple point of the banana-peel joke, to any intensity of ecstasy we can bear.

Somewhere in that wide range of guidance offered us in grasping the One, each of us almost surely can find something that “works” for him—gives him a genuine wide grasp of God, or life.

When by such worship we have experienced that thrill, or seen the unending value of life *often* enough in that *particular* way, then we can recognize the same value and joy in our more extensive daily work. I.e., we can, if we have understood those religious experiences, and thus *have not overdone them*—a point we come to in the next chapter.

§5

Further, by using alcohol (or perhaps other drugs), we can obtain ecstasies or grasps of the One in what may be called an artificial way.

So far as I can judge the facts, alcoholic intoxication or ecstasy consists of somewhat benumbing a part of the nervous system or mind, so that all conscious mental activity is forced through the remaining working channels, without the usual diffusion or "inhibitions" (see Chaps. 28-30). That gives an unusual flow of thought or nervous energy that tends to be ecstatic, joyful, and exhilarating, and often is a vividly intense grasp of the One. The intoxicated or "illuminated" man, by thus artificially working a part of his mind with abnormal intensity, sees the Many unite more or less vividly into a One. His world is luminously and certainly a One, which is not troubled by the pseudo problems and logical puzzles, timidities, and agnosticisms concocted by intellectuals who are worse befuddled than he is (Chap. 11). (All that is true *if* his digestive apparatus will stand the abnormal strain. Many men's won't.)

I have to omit the volume of details implied by the last paragraph. Of course the intoxicated man's mentality is not *quantitatively* so extensive as when he is sober. I have described its *quality* or kind, and not its quantity or reliability as to various Many details. And of course, unendingly there are other degrees of intoxication, and variable cumulative results from previous artificial ecstasies. I have simply tried to state the essential nature of intoxication in a way which the commonsense man can recognize from his own observation as being substantially correct.

The most important details which must be omitted concern fatigue. *All moderate* religious experiences, especially these artificial ones, loosen up or remove what may most intelligibly be called mental "cramps", or unduly tense mental strains (including all sorts of bigotry, and cranky ideas). Temperate ecstasy or joy thus gives us rest or relaxed tranquillity and recuperation for further and better work. In that "negative" direction of removing fatigue, alcohol is *mentally* safe. I.e., it can't be mentally used immoderately, as it simply puts the whole mind into restful sleep if too much is used. 'Un-artificial' ecstasies can all occur in men-

tal excess—and dangerously tend to do so, as we see in the next chapter. Alcohol thus has high value for counteracting *mental* fanaticism or excesses—as a mental flywheel. But, of course, alcohol can be used in an excess that directly damages other organs, and thus *indirectly* damages the mind. This “negative” use of ecstasy to remove fatigue involves unending details, few of which have been carefully observed.

That there is something of genuine value in intoxication is convincingly proved by the fact that men spend large sums for alcohol—several times more than they spend on churches, e.g. For it is not reasonable to believe that so many average, commonsense men will steadily spend so much on something that has no actual value.

History shows rather definitely that the races who used alcohol somewhat generously, grasp the meaning and value of life most clearly; are most active; and are most conscious of success and happiness. That agrees in principle with the fact that intoxication is an artificial, but unusually vivid, grasp of life. For obviously, the man who in youth experiences some of those ecstasies would tend to learn the essential nature of religion or life abundantly, and would begin to recognize similar but *unartificial* experiences in his daily work; and so would strive to make all his ordinary activities yield him such definite values.

In short, he early gets a *standard* of what genuine life is—even if he does get it artificially, and in a way that is poor in many respects, and probably at the price of some bodily damage. And history seems to attest that principle.

The essential point is, that those alcohol-using races, having once seen the supreme values of life, *want* them, and *get* them thereafter in more normal and useful ways.

Unfortunately, the *ease* with which that standard of One life is obtained, is a danger. For many men overdo such artificial experience, instead of applying the standard to normal daily living. They seriously damage themselves and others by such intemperance.

But deprived of alcohol, many people directly wear out their nervous systems by intemperate indulgence in food, in movies, or sensational fiction, or science, or "reforms", or sex—or even in whining and complaining because their life is too monotonous or lacking in thrills. Some indulge too much in pious church-going. So it is by no means certain that a man deprived of alcohol will be temperate.

All that indicates the principles involved in prohibition. Probably the three gravest Many objections to traffic in alcoholic liquors are as follows:-

(1) Because women are naturally mentally more stable or steady than men and need to conserve that stability, and somewhat on account of other sexual differences, it is nearly certainly the *quantitative* fact that the use of alcohol is so damaging to women that they instinctively avoid it, and should not use it much. Hence, the use of alcohol by man is, directly or *immediately*, rather a burden to women in many ways, not compensated by their own use of it. So women, failing to see its possible *remote* and indirect benefits to themselves, naturally oppose such use.

(2) Because the overuse of alcohol is easy and tempting, traffic in alcohol for profit (i.e., the "saloon") dangerously intensifies that intrinsic danger of alcohol. Or, the "saloon" is practically an irremediable danger.

(3) The use of alcohol, as an *immediate* effect, ordinarily lowers a man's economic worth, both as a producer and as a consumer (including making him often a menace to others, when operating powerful machines such as motor cars or locomotives). Therefore, employers, *as* employers, object to alcohol for the same reasons that women do—and justly, of course. Employers fail to see that perhaps *in the long run* the use of alcohol will increase economic worth.

Opposed to those three just objections to alcohol, there is only its religious value in giving its average user vivid experience of life (and the negative form of that, relief from nerve fatigue). Such experience will kill a number of

weaklings, and make wrecks of many more. But *in the long run*, according to the principles we have seen, and apparently in agreement with historical facts, that artificial experience of the One *somewhat* helps the commonsense man to success or happiness. He will probably overdo it in youth. But as a historical fact, he ordinarily becomes temperate if he survives.

If he were taught just *why* alcohol is valuable, and its corresponding dangers, truistically he could gain its advantages and avoid its dangers, better than he intuitively has done in the past.

At present, objectors to alcohol so grossly exaggerate its dangers, and overlook its advantages, that they largely discredit themselves. In fact, they usually haven't the faintest idea why alcohol is valuable; and hence have no sound knowledge of its worst danger. If children were taught the fairly reasonable truth about alcohol, I think they could gain its advantages without serious danger. The weaklings couldn't of course. But we can not *wholly* sacrifice the strong in order to keep the weaklings packed in cotton-wool. If we must, then we have to abolish (say) *houses* because many men are killed or damaged in building them.

Further, it seems probable to me that if the objectors to alcohol do succeed in making it inaccessible to youth, then youths will resort to irresponsible or promiscuous sex intercourse, as a means of obtaining somewhat 'artificial' experience of religious ecstasy.

Nearly all ancients used sex in that way as religion. If not overdone, it may possibly be better than the use of alcohol—although as a historical fact, it is extremely doubtful if Mohammedans have found it so. But the dangers of using sex that way are so great, and the social results are so unsettling and difficult to handle, that it is preferable that we use every means to discourage it—the best being to tell the truth.

Therefore, the question of prohibition is a quantitative problem as to whether those Many advantages of alcohol

are greater than its disadvantages. It is not a matter of *principle*—not a qualitative or One problem, which can be, and must be, *absolutely* solved.

The *principle* or truism is that we absolutely must, and do, in some degree grasp the One. But there are other ways, besides the use of alcohol, to grasp the One with reasonable ease, for use as a guide to its more difficult grasp in everyday work.

Thus alcohol is a Many problem. Alcohol is not absolutely essential, or a problem of principle. So we can do no more, in deciding about prohibition, than to judge whether advantages outweigh disadvantages.

Any man's judgment is almost unavoidably influenced appreciably by his personal interest in alcohol. So it is requisite that I state my interest, in order that you may weigh my opinion:—I tried alcohol in my youth—starting largely because prohibitionists talked so much about its exceeding dangers that I became interested, and wanted to see what all the noise was about. I have not had a drink of alcoholic liquor for nearly twenty years now, and expect never to take another. I am the type who tends to drink to excess if he drinks at all. But I am certain that my youthful experience with alcohol has been of unusually high value to me—and also a joy, both then and afterwards. Possibly it shortened my *calendar* life some. If so, I think it well worth it—the calendar, or time, is not essential anyway: “better fifty years of Europe than a cycle of Cathay”. Also, I am not, and never have been, interested in a business way in the liquor traffic.

My quantitative guess is that a race who give up the use of alcohol are giving up something that in the long run is of more value than its immediate disadvantages. I think the chief dangers in prohibition just now are that (1) it will not in fact be well enforced (causing contempt for law); that (2) promiscuous sex will be intuitively largely substituted for alcohol; and (3) in less degree, over-eating, and excesses of other ecstasies will be substituted.

It is quite possible that we have already damaged ourselves more by over-eating than we should have damaged ourselves by over-drinking—and that the economic evils of that will in the long run be greater than the immediate economic evils of alcohol.

My opinion (that alcohol has more advantages than disadvantages) can be entirely correct *now*, and not be correct in say ten years from now. I.e., *if* we knew just how to get good religious ecstasies, we could get along without alcohol with negligible damage. We could use better methods. But until most of us know that, I think we incur danger in giving up the use of alcohol.

One practical solution of the prohibition problem occurs to me, which requires no legislation, and at the same time abolishes the saloon (at least nominally; and probably practically for a time).

The ancients used alcohol as part of their religious rituals. Indeed, we still use it as ritual, in the communion, or "Lord's supper". Obviously, the ancients were in principle right in such ritual. But they acted mostly intuitively; and in their partial ignorance failed somewhat to control the ritual—overdid it.

Our Eighteenth amendment explicitly prohibits traffic in intoxicating liquors for *beverage* purposes. It implicitly permits it for *ritual* purposes—the First amendment explicitly permits that. (Incidentally, the Eighteenth amendment permits the *use* of intoxicants for *any* purpose; the amendment in actual effect prohibits the saloon.)

So one solution would be for churches to serve alcohol in intoxicating quantities, as ritual.

The early Christian church did do that. As we have seen, the only valuable human use that alcohol has, *is* its ritualistic use—its use to give grasps of the One artificially (and at the same time, mental rest). The church is legally free to use alcohol that way. And such use would not only keep the saloon abolished (at first, anyway), but would also add a positive and perhaps successful check to intemper-

ance. And such ritualistic use could, and preferably would, consciously and intelligibly strive to retain the valuable advantage of alcohol—making a *little* experience of it, under such proper and honest guidance, sufficient and effective. Finally, such ritual might revive the church.

Of course, there are other ways of solving the prohibition problem; for it is a quantitative or Many problem, with an infinite regress of solutions. That particular solution I have suggested has one grave defect:- it is so novel as to be shocking, and will therefore be a painful suggestion to many people. I got it by deliberately working out the principles or One essentials of the problem; and I cheerfully admit that at first it was shocking, and therefore painful, to *my* conservative tastes. I hate these new ideas worse than you do. But the more I thought about it, the more clearly I saw that it was sound in principle, and that as a fact, just this solution *was* used by men as far back in history as we can go, and so, after all, is a very old idea.

But that does not mean that we have enough strength and intelligence to *apply* that sound solution successfully. If people are shocked by its novelty, they would lack confidence, so that a trial would fail.

The real, long-run difficulty would be to devise a workable method of having communicants contribute money in proportion to the alcohol they consume, and at the same time not pay a demoralizing profit to the clergy. I.e., the long-run difficulty would be to prevent the clergy from yielding to the temptation to become essentially saloon keepers who stimulate consumption, instead of religious leaders who control it temperately. It may be safer to trust the clergy than to trust politicians.

Hence, I do not say that this solution would work. I merely say that I am unable to devise any other solution that is so immediately and directly sound in principle. Of course, any church can try it. Or, if present churches don't want to try it, the First amendment leaves anybody free to start a church that will try it.

§6

That solution of prohibition is mostly a digression—is only one minor detail that helps us see that religion, or success, or life itself divides into an infinite regress of Many parts—a regress of unending details of work or prayer, and play or worship.

Our life in general becomes clear and intelligible, and we know what we want, when we get a broad grasp of the One. We may get that grasp by many and diverse religious ecstasies or rebirths.

We have noticed that theologians, by substituting their first logical premise for God, have practically abandoned hope of obtaining a real meaning or value for life. They usually openly say that life is a mystery—although life actually is, of all things, the most vividly and directly known to us commonsense people. In practice, theologians therefore assign our reward, all our real successes, to a *future life*—just as if our present life had *no* attainable value, but is a failure. They advise us to be “quitters”, like themselves.

On the other hand, scientists claim to have nothing to do with such matters. They say they don’t know about them, and don’t need to know—are agnostics, that being their highbrow euphemism for ignoramuses. Thus they tacitly promise us the meaning of things, but after talking for centuries in their confounded mathematical jargon they contradictorily agree to omit the meaning. They write *Hamlet* and omit “Hamlet”. They, too, advise us to be “quitters”, like themselves.

They then have a vague intuition, or “hunch”, that they have been ridiculous in some way. So they distract our attention (but more so *their own*) by clamorously praising and extolling the material inventions and comforts they deal in—urge us to get rich quick; to flimflam God (who includes ourselves).

Of course, if anyone wants to trade his birthright to a genuine life, for that mess of scientific pottage, he is free to do so. I myself rather started in life by doing so. I find that by doing the opposite I can get the genuine life first, and then further obtain a much finer and larger mess of pottage than the scientists dish up. So I act sensibly, and take both.

CHAPTER XI

EXCESSIVE EFFORTS TOWARDS HAPPINESS; OR, RADICALISM

§1

IN the very desirability of that success, or joy of actually experiencing life, naturally lies the source of our errors or sin.

For we so intensely want that ecstatic experience of God, and it is so easy to get, that everyone often yields to the temptation of getting too much. Even babies yield at times to the ritualistic joy of sucking their thumbs, or to the ecstasy of yelling over-much. From the cradle to the grave we tend to overdo the grasping of happiness; to be intemperate; to go to extremes, or become *radical*—either in the direction of gluttony for life or happiness, or in the opposite direction of asceticism (which is usually called Puritanism in this country). We can get just as much ecstasy out of asceticism as out of selfish greediness. To go in *either* direction of overdoing, amounts to the same essential thing:- intemperance or radicalism.

The tory is as much a radical as the red. The reactionary or stand-patter is an extremist or radical, just as is the socialist or Bolshevik or "liberal". The socialist nowadays seems to have successfully appropriated that name *liberal* as a euphemism for himself, and is trying to take *democrat* as a still sweeter name. He probably will succeed in stealing *democrat*. In the same way, the stand-patter tries to steal the trade-mark *conservative*. So it is wise to pay but slight attention to a man's name for himself, and watch the character of his acts. But wolves in sheep's clothing

is an old, old trick that usually deceives the fools who try it, somewhat more than it does us common people.

The objection to too much life simply is that we, as *finite individuals*, can't long survive or enjoy a steady overload. Too much work or too much play breaks us down, painfully. An excess of money, of intellectual cleverness, power, prosperity, or of any other sort of ecstasy, burns us up too rapidly, and "hurts", or is *quantitative* evil or error. (*How* that is so, is shown in Chaps. 28, 29, etc.)

Obviously, the only possible way for any man to find out what is "too much" for him, is to *try* different amounts (cautiously, even to the extent of merely mentally, when the "temptation" has a danger, or "don't", sign on it)—and find out by getting hurt *slightly*. Nobody else can find out for him: we have to eat our food for ourselves.

All normal people naturally tend to grasp too much. The baby cries for the moon, and the reformer or uplifter for perfection. Then, in *reaction* from the resulting pain or excess of ecstasy or life, all of us naturally tend to grasp too little, and be equally pained by excess of asceticism. Only by long experience, or "experiment", can we learn to keep within our individual supportable or "moral" limits, and thus save ourselves from radicalism or extremes—avoid becoming a specialist or fanatic.

Because some sorts of intemperance hurt us only indirectly, and but slightly at the moment, we have difficulty in recognizing that excess. Indeed, such "vices" or excesses may have given us so much ecstasy in the past, *before* they accumulated to a painful degree, that we fancy we love them, and won't even listen to suggestions that they are damaging us and ought to be given up. Probably you have seen drunkards who have reached that condition. Or, as a milder example, a thumb-sucking child is often not open to argument, or even amenable to force mild enough not to injure him. Some imbeciles will never give up the mild vice of thumb-sucking, and some energetic children persist in it for years.

From those general principles, and typical examples, we can understand why intellectuals fall into their vices of radicalism or specialism, and tend to persist in them:-

Before the dawn of history men had observed that a grasp of the One gave ecstasy. So some extremists insisted then, and their heirs still insist, that we should spend our life in a trance-like condition of literally ineffable, infinite happiness. They are the extreme religionists, usually called mystics.

Obviously, if those mystics actually could live up to their theory, they would exist in an absolutely silent trance. For all practical purposes they would be dead to us; and, indeed, would be physiologically dead, pretty soon after going into such a trance.

Of course, nobody actually lives up to such extremes. No sort of complete or *perfect* radicalism is possible in *Many* or individual life, because a complete or perfect theory or principle is the One, and flatly contradicts the Many or finiteness. But, *as a principle*, or in an ultimate *One* sense, mysticism is obviously right.

As we have already seen, other men noted that *language* seemed to give ecstasies. The extremists among them substantially deified language—as in the Greek philosophical doctrine of the Logos, or logic, in *John* (“the Word was God”), and in the beliefs in magic numbers, incantations, absolutely divine or “infallible” revelations, reverence of the printed word, and the like.

Indeed, intellectuals are still extremists who take language as being truth, as is shown by the fact that “proof” or truth is supposed by them to be given by words—in theology, by divinely inspired words in alleged infallible writings, or by infallible pontifical words; and in science, by equivalent divine or exact (i.e., absolute) mathematics.

Some of those intellectuals, especially the scientists, recognize the absurdity of making words real or “proof”, and go to the opposite, ascetic extreme, agnostically saying that language has nothing to do with reality, and that they

don't know anything about it, aren't interested, and won't deal with it. *In principle*, that is truistically merely a negative way of saying that words are absolute. Hence, that is an infinite radicalism, just as wrong as the theological or mathematical one it tries to avoid. For words are neither absolutely real, nor absolutely unreal; but are finite, Many parts that are real when, and as, summed into the One. Words are *as real as electrons*, and *no more so*—and as worthy of notice or “experiment” by scientists.

Practically, such agnosticism amounts to the scientists' running away, and cowardly conniving at leaving the “positive” word idolaters in full possession of the field.

Personally, I should rather be a word idolater, like the Fundamentalists with their fancied inerrant Bible, or the Catholics with their inerrant pope, than a futile scientific agnostic, who negatively worships words by being afraid of them, and saying he isn't interested in them. The Fundamentalists and Catholics are better human beings—they obviously have backbones, and tackle a hard job even if they do get it wrong. ✓

Already at the dawn of history the idolaters of language had split into three species of radicals, who nowadays are called theologians, scientists, and philosophers.

Very roughly speaking, theologians are the men who hold One words real; scientists, Many words; philosophers, relationship words. Of course, there has been, and is still, an unending and practically inextricably confused mixing of those three exaggerations—combined with even worse confusions resulting from agnosticism, which substantially is exaggeration to the extreme called zero.

The details of those varieties of exaggerations constitute the history of “thought”. And so far as I can find, no two intellectuals are agreed upon even the main outlines of such a history.

Opposed to those numerous varieties of intellectual or *theoretical* radicals, there have always been the opposite exaggerators, or specialists, known as “*practical*” men.

These are the opportunists, the get-rich-quick grabbers or profiteers, the men who demand results immediately, and hold that nothing is of value unless it "works" at once, more or less regardless of its long-run results and its present cost.

These "practical" men are those who idolize ritual, or a *few* concrete things, as being reality. If they somewhat experience the infinite One value of life by getting intoxicated once, they jump to the radical conclusion that they ought to be drunken sots, and that a man who suggests temperance is a crook or crazy. If they once experience a somewhat vivid sense of happiness by making money, they similarly jump to the extreme conclusion that money is *the* reality, and everything else is to be ignored for its pursuit.

There are thousands of "practical" rituals or concrete things which work all right, under *some* conditions, to give life more abundantly. The "practical" man exaggerates one or a few of them into his God, fancying that they will work under *all* conditions.

The mystic we noticed is the extreme type of "practical" man. He correctly sees that God or the Infinite himself is the ultimate and sole value. So he concentrates *solely* on God. The mystic, like the more moderate "practical" man, is not interested in "words", or steps towards infinity. He is a whole-hog man, an extremist, a fanatic. He wants to take real life *directly*, with "no nonsense about it". It is unusual to call a mystic a "practical" man. But he obviously is extremely such.

The occasional extremist business man greedy for gold, the radical mystic greedy for God, the "practical" politician greedy for power regardless of how it is got or used, the libertine greedy for sex, or any other virulent "practical" man, scoffs at theory or principle. He would select some concrete thing, or ritual, as giving him vivid life, and go after it exclusively. He is obviously blind to most of the universe.

The intellectual holds words to be the reality (scientists doing it ascetically, or 'agnostically'). The practical man holds words to be useless. Both are obviously radicals, and wrong. And in the nature of things, both fail to live up to their silly ideals.

§2

Through the ages the commonsense man has had to try to keep sane, or balanced, between those exaggerations of the extremists.

One party of radicals would clamorously exhort him to ignore all else and obtain life abundantly by repeating their verbal formulas—such as those of our mathematicians and Fundamentalists. Another school of radicals would thunderously preach that he should forsake all else, especially principles or theory, and be saved by grabbing money. A third variety would insist that he go into a mystic trance and stay there. A fourth sort of radical, nowadays called scientists, would pontifically enjoin him to get the value of life by "measuring objective things" in "research"—coldly and inconsistently ignoring "value" and "life" as being "metaphysical" fancies.

But there is no space to specify all the varieties of extremists.

Obviously, the radicals exaggerate one part of infinite truth at the expense of other parts. For us to exaggerate one part, *for a while* does give us an ecstatic flow of nervous energy that does imply to us all the infinite regress, on to the whole universe or God. That is the essential nature of religious experience, or exaltation of our finite self.

So the wise man uses *all* those parts of the whole truth as emphatically as he safely can, to see the One. But he never tries to go to, and *stay* at, the excessive extremes of the radical.

Thus it is plain that radicals are useful to us, *provided we don't take them seriously*. For they are men who have

put their whole strength into (1) going *excessively* far into one particular part of the truth, and (2) *then staying* at that extreme. That naturally wears out their mind abnormally, burns the candle at both ends, so that having no more strength or vision they fancy there are no other parts of the truth. They are simply steady drunkards of one sort or another. Such a persistently intemperate man *thinks* he gives a "lovely light". But he is mistaken. His brain rapidly fails under the steady overload, and *he* can't see what an erring, dull bore he soon becomes.

All radicals are thus half-baked—or half-dead, if you prefer that metaphor. But some are glorious failures. Those glorious few put such terrific energy into going an excessive way along one part of the truth, that for centuries afterwards they help other men to reach the same partial truth without exhaustion. They fail in a useful way. And we who come after can be grateful that we may profit by the example of that failure, and avoid failing similarly.

Therefore, although radicals are failures, and we must recognize them as such and avoid repeating the failure, they are useful examples of trial and error. They have been seeking happiness, just as we are. We can be grateful to them in proportion as they were strong, even while in view of the whole truth we must condemn them as half-baked.

E.g., a radical of genius has just died, Jacques Loeb, the avowedly materialistic biologist. His views of general truth were pernicious nonsense that would wreck us in a few years if we happened to be fooled into accepting them. Yet he devoted a vigorous life to getting a narrow biological part of the whole truth, and went far in that part, and will probably be a useful guide *in those details* for years. He was so offensively unbalanced in his general views, that we common men are in no danger of accepting them. All we need do is to warn our innocent children and biologists against taking such wild, mad materialism seriously.

§3

Probably most radicals are simply youths who are experimenting in exaggerating one aspect of truth after another. As we saw, all of us have to experiment some, in that way, in order to learn to live wisely—in order to learn what is balance or moderation for our particular selves.

We expect such callousness and immaturity, or half-baked condition, in youth. It is normal at that stage. We properly approve and love that youthful radicalism, or “sowing of wild oats”, if (1) we aren’t forced into such close contact with it that our more mature tastes are rasped too much, and if (2) the youths don’t seriously hurt themselves—and most don’t.

Then, after youths who are finding themselves, probably the next largest class of radicals are the weaklings—those who haven’t had the strength and commonsense to work through the exaggerations of youth to a temperate, all-round grasp of the One or life. These are the sore-heads or failures most of us object to as “radicals” (in the usual *restricted* sense of the word). We normal men avoid failures and unhappy people. In this class fall the average intellectuals and extreme “practical” men.

Intellectuals are nowadays apologizing that “radicalism” means going to the roots of things, and in that sense is praiseworthy. But why should they so persistently harp on “roots”—even if *radicalism* be thus defined. The *whole* harmonious ‘tree’ is what we are after. The roots are only a part, which we take, but take in their due proportion.

And among a million youths there may be one radical (like Jacques Loeb) whom we name a genius. He is simply more energetic than most of us. But his strength is so unequally distributed that he sticks to some early radicalism—grows in one abnormally narrow direction, without ever being strong enough to develop the whole truth with equal vigor.

Nearly all our prominent artists, statesmen, and preachers—nearly all our “leaders”,—belong to this small genius class, or to a far more numerous class of minor geniuses having “talent”. Their very abnormality, their often actually diseased eruption of energy, makes them interesting to us—just as in childhood our immature tastes ran to “Tom Sawyer’s” sore or abnormal toe, and to other markedly abnormal human matters.

We are tempted to follow those geniuses, or leaders, heroes, prophets, too far. Few of us are naturally so well balanced in the various sorts of nervous energy, so thoroughly commonsense or charming or “decent”, as not to be tempted towards radicalism in some direction.

§4

When a certain radicalism is not intense, it takes considerable time for its bad results to accumulate painfully enough to warn us away from it. For perhaps a century or more commonsense men will swing from undue emphasis on one part of the whole truth, to a similar emphasis on another part.

During the Roman empire men emphasized a little too much the Many, or science, or “material” ecstasies; and finally began, because of the naturally resulting pain, to swing to mysticism or One ecstasies. That religious swing went too far in the Middle ages, producing a highly painful lot of theological nonsense, mis-called Christianity. So since then, we have been swinging back to emphasis on the Many, or science. Now we are getting too far in emphasizing science, as this book shows in outline.

Truistically, if we commonsense people keep on increasing our scientific exaggeration or swing, we shall get into worse and worse trouble or pain, finally smashing ourselves up considerably, as did the Romans, and then beginning to swing back to the opposite extreme of what is nowadays called Fundamentalism—a swing to the Catholicism or

theological excess of the Middle ages. Indeed, one vigorous lot of our extremists are already starting such excessive One exaggeration.

Although we commonsense people never do swing to *excessive* extremes, yet the various radicals do—and invariably get *us* painfully involved in *their* resulting wars, pestilences, and economic storms. I think it is rather obvious that the various scientific idolators of the Many got us into the world war (it is shown how, in Chap. 15 §3; see Chap. 34 for theological wars). That war, with its resulting violent fluctuations of standards of living, or economic storms, still involves *you*.

Of course, there are various secondary or minor swings, added to the big one between the One and the Many—the big one between mysticism and materialism. That major swing truistically involves *all* parts of the truth. Any particular part may be over- or under-emphasized, and will be a minor swing that modifies the great one.

In short, history is infinitely variable—has the infinite regress. Any *sort* of swing repeats itself in some degree (truistically has to, in order to preserve action-reaction, or balance). Thus history in a One sense, or *qualitatively*, always does nothing else except repeat itself. But the same *quantity* of swing, the same sequence of events, or even the same combination of major with minor swings, can't recur in a finite time. Or, in the usual Many or everyday sense, as an absolute truism history never repeats. In business terms, every cycle *varies some* from others.

It follows, that if we want to keep out of serious trouble in the future, we shall have to continue our customary wet-blanketing of radicals. Especially, we have to be discouragingly cool towards scientists, who threaten to go mad in their fanaticism.

In brief, we should avoid going *continuously* toward any sort of extreme, as such accumulation of intensity in a narrow groove is painful, and finally destroys us. Also, we have to discourage our neighbors from such excesses; for when they go mad they damage us in their wars.

But we should (1) *temporarily* go to *non-excessive* extremes or ecstasies in all the directions we can, (2) stopping at a vivid or exalting limit (which is never an attempted *infinite*, or absolute deadly, limit), (3) coming back to a balance and resting, and then (4) repeating in whatever way gives our individual selves the maximum of life, *without interfering painfully with our neighbors*.

Those general principles (in the last two paragraphs), of living a successful life, clearly are truistic or sound. Also, they say we should do certain things which we saw (Chap. 10) are precisely the things we want to do, and like to do.

The difficulty is to *apply* those principles—to judge what *quantities* are temperate and enjoyable, and what are excessive and finally painful. For those quantities or Many vary forever, and everywhere, with each man. And most of our minor acts are so *slightly* in the happy direction, or in the opposite painful direction, as to be hard to judge.

It is easy to see that we shouldn't, and do not want to, be radical. That is a One or qualitative "proposition" which is obvious to commonsense. The average man's problem is to judge *when* and *where* a certain activity becomes radical or intemperate or painful. That is a Many or quantitative problem, subject to infinite regress or change.

§5

Several important conclusions have implicitly appeared in this chapter on sin or radicalism. Some will be more definitely considered in later chapters. I list here the following five:-

(1) Sin, error, failure, pessimism, immorality, pain, intemperance, excess, radicalism, narrowness, bigotry, undue specialism, ignorance, agnosticism, evil, all essentially mean the same thing. They mean simply that we, as finite or Many individuals, whenever we experience such failure or pain, have misjudged *quantities*—have bit off more than we could chew (or occasionally, not enough to chew).

As we shall see more clearly later, in a *One* sense there is no such thing as sin or evil or ignorance or agnosticism.

Of course, we can *verbally* reverse that if we like, becoming "irrationalists", and say that the One is absolutely without meaning or rationality, and hence absolutely evil. To do that *consistently*, obviously amounts to prefixing "not" to all our *everyday* words. It consistently adds a syllable to all the words of our language without really affecting their summed meaning, any more than if we prefixed a grunt to every word. However, the "higher thinkers", who boast of their irrationality or highbrow cynicism and pessimism, are not usually *consistent* in adding their sour grunt, or "not", to every word—and don't know its actually negligible result.

(2) We actually *want* to do the things that give us happiness and success. We prefer doing such moral things, and wouldn't dream of acting otherwise *if* we could only judge what those moral things are. It is far easier to do the successful things, if we could only judge which they are.

So we do not need to be preached at—to be exhorted to do right things. We prefer to do them, and are always trying to find which they are. Indeed, any man who thinks we need to be exhorted to be moral, thereby shows that he is a half-wit who believes painful or immoral things to be right and pleasant ones.

Truistically, men's *intentions*, or *motives*, are always good or right. But sometimes their *judgment*, or *estimate of quantities*, is atrociously poor or radical. That is the meaning of "Father, forgive them, for they know not what they do."

(3) The "common" man in practical effect "leads" the race. The voice of the people is the voice of God (Chap. 33 §2).

The common man actually controls or guides, and "saves", the geniuses—picks out what is good and true in all the doctrines of the extremists. He balances those good

parts, and rounds them out into the One. In short, he has the final vote or decision—and gets that conclusion right in principle, and fairly close to the quantitative optimum.

Of course, commonsense men, those the intellectuals call the mob, occasionally go mad, and run wild. But they do it only occasionally, and quickly recover—have to, as they get badly hurt at once, there being nobody to nurse and “protect” them, as they nurse the leaders.

However, even when the “mob” is most frantic, always some intellectuals are complaining that it isn’t fanatic enough; are berating its members for being dull slaves, and sodden clods; and are urging them to arise, throw off their chains, and be “free”—i.e., radicals. So we needn’t worry when the intellectuals call us names.

(4) Science is in many ways a highly useful radicalism. But we are nowadays getting rather too much of the scientific aspect of the whole truth, and had better dampen the scientific fanatics a bit. Some are going mad.

E.g., the eminent astronomer Shapley in a recent address (*Forum*, July, 1924) considered the meaning of life, or what he calls the “significance of life, if any”; and stated that the “stars are great in the universe; nebulae are materially important; perhaps also the mind of which we boast is significant cosmically”. This noted scientist thus says that his mind (which *decides* that the material stars are great and do mean something) may perhaps amount to a little itself. That is a typical example of scientific fanaticism. It probably isn’t technical insanity to talk of the significance or value of life, “if any”. But it shows a state of mind headed that way—particularly when that doubted mind or life is in the same breath used to give undoubted great value to material “stars”.

(5) These conclusions are of course objectionable to our fanatic “leaders”. They consider it quite right for them to call us a mob, and dull clods, and to sneer at us because we refuse to follow them wholly into the “higher life”—or to “higher things” such as the “great” stars.

But when we despised common men turn, and mildly ask those "leaders" just what they think is of value in life anyway, then according to them, that isn't "right". It isn't fair for the worm to turn—it isn't polite to ask a king or a scientist a question. His mind is occupied with "higher" things, like the "great" stars. I have numbers of letters from prominent scientists, making such silly statements in all seriousness.

So you can expect the average intellectual to meet our gentle appraisal of him with "dignified" silence—so long as he can keep his prestige, and especially his salary. But the geniuses will agree that our question is fair; and that our commonsense temperance is right; and that they themselves would be all-'round balanced men if they only could.

Those five conclusions indicate that we common people want as much knowledge about the universe as we have strength and time to take in. And they indicate that we are especially interested in principles—in a standard or One foundation upon which to judge the radicalisms offered us.

So, broadly, we shall be interested in completing more specifically our investigation of language in the remainder of this Part I, and in applying that in the rest of the book.

Of course, I can't tell just how much of such knowledge you want. For that varies with each individual. I shall simply give a rough outline that seems important to most people. You can skip what doesn't especially interest you, and readily fill in for yourself the further details you want.

You of course already know that knowledge. The pleasure you will get from reading it will be in seeing that you know it—in recognizing old friends. If the book has any usefulness to you beyond that entertainment, it will lie in the fact that my somewhat orderly arrangement of the knowledge will make it more clearly conscious to you, and hence easier for you to apply.

CHAPTER XII

FOUNDATIONS OF KNOWLEDGE

§1

This is a pretty hard, but quite short, chapter. It is needed to make the book rigorously complete; but for everyday purposes you can skip it if you like, as you already intuitively know it.

THE basic principle of language or logic is:- words are not reality or truth, but express reality. We can't *really* prove anything by words (except we can exhibit words as evidence that *words* exist). We get such reality or proof only by experience.

The only way of proving that basic principle of language (of establishing that sound epistemology, or foundations of knowledge) consists of (1) using language to point to all our experiences, as far along the infinite regress as we like, and then (2) actually *observing* that such language *is* all self-consistent, or sums to a truism.

So this whole book consists of the establishment, or the proof, of that principle of language or knowledge. If you see from the book that I point to *any* sort of experience, and that the words I use do not contradict each other, but finally amount to some such consistent expression as *The related-Many = The One*, then you *know*, by your own observation, that absolute knowledge exists, and is self-consistently expressible.

If any man *can't* observe that from this book, or from some other verbal expression (perhaps his own), then *strictly* speaking he does not know what words mean, does not really understand any *expression* of knowledge, or is *agnostic*. In such case, if he is *strictly honest*, he is not interested in any sort of words, and *will not use words*.

Scientists assert such agnosticism, or lack of interest—but they fail to *act* on that assertion: don't live up to their word.

As a simple fact, the most aggressive agnostic at least intuitively knows that some sure knowledge *is* possible, and is expressible. If he says *no* knowledge is possible, then truthistically he is a fool or a liar when he *says* he knows that one thing:- that he is agnostic. It is typical scientific folly for Shapley to use his doubted mind, to get his *undoubted* or known certainty that the "stars are great". If our ten-year-old child made Shapley's silly statement, we should be worried by the fear that he was feeble minded.

From that apparently "theoretical" basic principle, we at once get, as a simple truism, what is probably the most extensively practical or useful conclusion of our everyday life, as follows:- Neither the intellectual extremist who tends to take language as real or as being knowledge, nor the opposing "practical" extremist who holds language or theory to be useless, is right. The truth is, that language is a highly useful tool—a practically valuable *part* of the whole reality. Consequently, commonsense men will *simultaneously* combine practice and theory. That conclusion is the practical form of our previous conclusion that sound logic is simultaneous use of inductive and deductive reasoning.

Also, we have seen that modern science says it is not interested in such "theory", and knows nothing about it. And we have seen that orthodox theology and mathematics and philosophy "assumes" a start—holds that only an "assumed" or unknown start is possible, and makes its God or its First Cause a first logical premise. By using our everyday native commonsense we reject that orthodox nonsense and absolute "mystery", and get a sure, intelligible, *trustworthy* start in life.

This "epistemology", or basic principle, merely says in intelligible detail that we *know* we can make a language and use it to mean something. Anybody who (in good faith)

uses language, *by that very act* agrees he knows that. And even our most agnostic intellectuals use language—thus basically stultifying themselves.

If our foundation of knowledge is thus so simple, and actually known to everybody (at least intuitively), why have specialists been so puzzled or agnostic over it? The answer to that practically important question is equally simple:- the intellectuals didn't understand language or logic, and in their squabbles over it somewhat confused themselves, and even commonsense men.

Language is intrinsically very simple. But as we saw (Chaps. 6, 7), it duplicates itself in infinite regress, and in that practical aspect is infinitely complex. So there is some excuse for the intellectuals' getting confused over language, and in effect never arriving at any genuine consideration of the basic principle of knowledge.

At any rate, it is plain that, because the experts have made a radical mess of language, we need to finish this Part I by looking at the important details of logic.

CHAPTER XIII

PRACTICAL RULE OF LOGIC

§1

THE last chapter gave the one basic fact about the nature of language and truth. We apply that in this chapter—see the one basic rule that will, if followed, enable us always to be soundly logical, or consistent, or be what we usually call *honest* and *reliable*.

Anyone can follow the rule easily if he somewhat approaches having a normal mind—if he has (say) the mind of a moron or better: one not too much perverted by orthodox theology and science.

The rule of sound logic is:- do not confuse one sort of word with another. I.e., do not try to mean that a Many part is the One; or that a relationship is a Many thing; or that a relationship is the One. Such attempted “meanings” are truistically absolutely self-contradictory—are meaningless, or nonsense.

This one rule—don’t mix the three kinds of words—is obviously truistic. That is the *verbal* proof of its absolute soundness. The last chapter points out the *real* proof of its soundness.

That rule of course amounts to this ordinary truistic commonsense:- if we want to mean something, don’t say what we do *not* mean. Or vice versa, if we try to use language, then use it, by meaning what we say.

When put in that simple form, that *if* we want to tell the truth, we *must* be honest or tell the truth, our single rule is obviously sound, and is *known* and accepted by all sane humans old enough to talk.

Of course, if a man doesn't want to tell the truth, then *logic* can directly neither stop, nor expose, his lying. He can make a deliberate lie be soundly logical *if* he knows logic well enough *and* has an extraordinarily good memory that can remember not to contradict that lie. We could then discover his lie only by *observing* for ourselves the facts he claims to express correctly, noticing that his assertions disagree with them.

However, there are extremely few deliberate liars in the world (Chap. 30 §3)—and far fewer men who even begin to have a good enough memory to stick definitely to a lie. (In ultimate One theory, it of course is impossible to stick absolutely consistently to a lie.) Most people who make misstatements deceive *themselves* first, and almost invariably fall into that self-deception by carelessly letting their *logic* be self-contradictory. In those ordinary cases we can easily detect their disagreement with facts simply by a quick look at their *logic*—for their language asserts a fact, and then soon denies it by confusing one sort of word with another.

Our simple rule shows clearly that there is no *intrinsic* difficulty about “logic”, or about that even worse bugbear, mathematics. Most of the practical difficulty in using sound logic is the *emotional* difficulty we have already noticed: specialists get excited or ecstatic over the “reality” of one particular sort of word, and then madly try to make all three sorts into that one sort (or two sorts).

They assert in one way or another that all three kinds are their one pet kind [sometimes *two* kinds]. That truthistically amounts to *omitting* two sorts, and gives nonsense. Or practical men “go the intellectuals one better”, and hold that all three sorts of words are no good, thus nominally omitting *all three* sorts—while contradictorily using them.

In short, the ability to use sound logic, to think straight, is chiefly a matter of emotions—of “character”, or of having moral strength.

Apparently before the dawn of history, one group of intellectuals held that only One words were true, and an opposing party that only Many words were true. Then, at the beginning of history in every country most of the intellectuals had agreed to disagree on that point. They had *compromised principle*, or become *tacitly* agnostic, by openly agreeing that the truth was self-contradictory and hence hopelessly mysterious.

I.e., they *nominally* agreed that there were *two* opposing or contradictory aspects of the universe which were irreconcilable, but did exist:- the One *vs.* the opposing Many; God *vs.* his opposing creation, including men; spirit or soul *vs.* body; mind *vs.* essentially different matter or material.

Theologians who talk about the "mystery" of God and life (as most do, especially Fundamentalists), obviously assert agnosticism, or absence of any real knowledge or truth, just as clearly as do scientists who say "don't know" instead of "mystery".

Such intellectuals who agree to disagree are technically called *dualists*—a name clearly meaning that they "believe" in two *unbelievably* contradictory essentials in the universe. Truistically, there can't *really* be any such dualists—it is simply impossible to believe both sides of an absolute contradiction. But they *say* they believe such rubbish. So it is convenient to call them dualists.

Dualists omit relationship words. If they would only *consciously* put that third sort of word into their language (they do use them, even while denying them), obviously they would reconcile their difficulty, and have the sound truism, *The related-Many = The One*.

Probably most orthodox intellectuals verbally *practice* dualism. As a *result* of asserting such a contradiction, which they admittedly "don't know" how to reconcile, truistically they are then *also* agnostics.

However, probably most scientists in *theory* claim that only the Many or material is real. In that aspect, they

strictly are *materialists*, who repudiate dualism and also agnosticism. For *materialism*, which strictly is belief *only* in Many words (and hence is positive belief in absolutely separate, or "exact", Many things), truistically contradicts belief in the-Many-and-the-conflicting-One or *dualism*, and also in the *agnosticism* which truistically results from dualism.

Most scientists object to being called either agnostics or materialists. But in practice, most of them continue to hold *both* views, both of which are wrong, and which are *mutually self-contradictory*.

Further (looking deeper into the confusion of the scientists and theologians), belief in the *sole* reality of the Many is truistically, or *essentially*, the *same* as belief in the sole reality of the One. For each belief picks one sort of word, and positively or gnostically denies the other two.

Then as a practical fact, just as soon as theologians have theoretically asserted such a *sole* reality of the One, they abandon that extreme *infinite* mysticism, and begin to make more than one God, or have polytheism. E.g., for all logical purposes most so-called Christian theologians have several Gods (Chap. 34). Also, as in practice most scientists and theologians agree to disagree—to tolerate a recognized dualism or basic contradiction,—it follows that for most *practical* purposes there is no difference between dualism, agnosticism, materialism, polytheism, and paganism. All are idolatrous.

I.e., scientists and theologians have mixed together their various errors so nearly inextricably, that they themselves don't stick to *any* definite view, and don't really know what their own strict view is—for the excellent reason that they actually have none.

Hence, *strictly* (1) materialism is in the opposite direction (or is *quantitatively*, not qualitatively, different) from (2) the sole One view, or "spirituality", of theologians; and *strictly* both are qualitatively or essentially contradictory to (3) dualism or agnosticism. But for most practical pur-

poses, theologians and scientists are confused on all three; and there isn't much practical profit in trying to discriminate the three. Indeed, as a matter of obvious fact, agnosticism is not *strictly* dualism, but is the *truistic result* of dualism. The strict fact is that the dualist says that he *knows* dualism is the truth, which *verbally* amounts to saying that he is *not* agnostic. But as we saw, he *can't* know a flat self-contradiction, so that practically dualism *is* agnosticism—a fact even theologians tacitly admit by talking of “mysteries”.

So if we call either a scientist or a theologian any one of those three or four names (materialist, polytheist, dualist, agnostic), he promptly (and usually unconsciously to himself) agilely shifts his “belief” to one of the others. So it is just as well to call him all three or four at once, and catch him *everywhere* in his shifty mental career.

Finally, it is obvious that the foregoing hair-splitting differences are too burdensome to remember in daily life. So hereafter I shall use whichever of the four names I think is most *intelligible* in a given place, although in doing so I shall keep in fairly close agreement with those strict definitions. Such fine discriminations had to be given here, or else the intellectuals would try to squirm out of their responsibility, by wriggling from one pile of mental rubbish to a technically different one. I later show some of their weaselly attempts to do so.

Scientists also explicitly use the commonsense man's intuitively correct “factor”-duplication of language (Chap. 6), which has the rough appearance of dualism. They mix that in with their actual dualism. They thus increase their befuddlement and agnosticism, until it comes to a climax of irrationality in the renowned mathematician Russell's recent *ABC of Atoms*, in which he summarizes modern scientific fundamentals:—Russell ends that book by stating approvingly that Eddington (the British astronomer who did most to get Einstein's relativity orthodoxly accepted) “hints that a real law of nature is likely to stand out by the fact that it appears to us irrational”.

Russell then declines to discuss the question of whether or not nature is irrational or mad, or whether men are—but more than hints that scientists hold the universe to be mad (and overlooks the truism that the universe includes even scientists). It has been said that we can't indict a nation. But here we see that scientists, with due scientific modesty and caution, indict the universe or God Almighty.

Thus the dualistic violation of the one rule of logic becomes complicated and extensive—so much so that I leave further discussion of dualism to Chapter 15, and go on here to practical violations of our rule of logic.

§2

We saw that the highly acclaimed mathematical authority Wittgenstein holds that only what we call Many words are real, or true, and “scientific”. Millikan approvingly quotes Kelvin to the same substantial effect (*The Electron*, both editions, p. 4). Such orthodox science amounts to confusing all three kinds of words into one sort only:— Many or material words. It is *strict* materialism.

But it is so nearly incredible that presumably sane men would actually try to *practice* such a pseudo principle of materialism, that I must cite a typical “scientific” example of such practice, before I go on and put our rule into an everyday usable form that avoids materialism.

Russell, in his authoritative *ABC of Atoms* (mentioned just above), in one single paragraph (pp. 24-5) holds *electricity* to be indiscriminately all three sorts of words. He says in various ways that electricity constitutes the universe or the way or process in which “things behave”. Electricity is there the One, with a touch of relationship mixed in. He then says that ordinary bodies are made up of parts containing certain “amounts” of electricity [and *only* electricity]—a certain amount of electricity being an electron. Electricity is there a Many word. And finally he says “electricity is not like red paint, a substance which

can be put on to the electron and taken off again; it is merely a convenient name for certain physical laws". Electricity is there a relationship word. And throughout his book he continues to use "electricity" *indiscriminately* as each of the three sorts of words, while *claiming* that always electricity is measurable or scientific (i.e., Many or material).

Incidentally, in that same paragraph, and especially in his next, Russell says the universe is made up of two essentially different kinds of electricity. Rigorously, that amounts to asserting that there is a *fourth* kind of word—something like the mathematicians' inconceivable "fourth" dimension. But Russell all through the book *explicitly* wabbles as to what "two" sorts of electricity mean, and says that probably they are somehow one. His remarks really indicate that the "two" are merely the two logical premises necessary in the erroneous classic or dualistic logic he tries to use—indicate that "two sorts of electricity" is merely a phrase, changing a solely *Many*-word language, or materialism, into a dualism.

But Russell and orthodox scientists are still not content with that much befuddlement of logic, but must have more. He says (p. 54, and repeatedly elsewhere) that an electron jumps from one orbit to another orbit in order to produce *any* sort of event or phenomenon; and that when it does thus jump, it passes over the intervening space between the two orbits in *absolutely* no time, just as if the space were absolutely not there. Russell himself says that although *that is what happens* (as supposed by modern science), it is quite unintelligible—that perhaps space is not space.

I stated that Russell's "science" was typical. In my sympathy with scientists, and my effort to be generously fair to them, I was too mild. I must reluctantly admit, in order that I may report facts with reasonable honesty, that Russell is deservedly accepted as one of the highest authorities on orthodox logic and mathematics, and his views I have just cited are not nearly so incoherent, and unintelligible, as are the assertions of the average, actually typical scientist.

For, as we saw, Russell has the high merit of deciding that such science is irrational, or mad. Lesser scientists fancy that their even worse stuff is rational. They solemnly set forth worse contradictions or bosh. But it rarely occurs to them to question the intelligibility or sanity of such "science". Indeed, the average scientist is so incoherent, or vague and befuddled, in his fundamental statements, that rarely is it possible to quote him definitely. E.g., when I quoted Millikan and Kelvin in the first paragraph of this Section, in order to be fairly accurate myself I had to say that they 'substantially' asserted certain things. For the fact is, that their actual statement, *strictly* interpreted, contains much uncertainty as to what they did mean, if anything.

As another example of the average scientific befuddlement, Millikan describes that same modern atom (*Electron*, 2nd ed., Chap. IX), and blandly overlooks the irrationalities Russell mentions, although Millikan several times says blithely and casually that contradictions occur. Even worse, although he repeatedly says that such an atom is a hypothesis and an assumption, he also says (p. 228) that "the theory... is one of the well-established truths of modern physics. For the present at least it is truth." Obviously, when an authoritative scientist like Millikan thus makes no distinction between "hypothesis", "assumption", "theory", and "truth" (and even goes further, and talks of truth as a temporary, changing affair), and pays no appreciable attention to recognized fundamental contradictions, a better scientist, such as Russell, is likely to wonder whether science is mad, or whether God is. We common men, who are not prejudiced in favor of science, may sensibly conclude that science is mad.

The madness of science obviously is, that it materialistically keeps trying to make the Many real, or absolute, and therefore persists in confusing the other kinds of words with Many words.

That gives us two practical clews as to how to avoid such verbal confusion. The first is, that we should examine

mathematics, the foundation of science. The second is, that we should notice just what effect the materialism of science has on everyday language. The remainder of this chapter digs into those two practical points.

§3

Orthodox mathematics, as I have shown by citing Wittgenstein, substantially claims that all its words or symbols are Many words. It practically holds its \times , $+$, $-$, $=$, and other relationship words to be Many words—it holds that view by not noticing them, and in other technical ways. It holds (*Art. Number, Ency. Brit.*) that its One words are Many words, by asserting that zero and infinity are numbers, like the numbers 3, 7. And there are other technical ways in which mathematicians confuse One words with Many words (see my article, *Monist*, Oct., 1924).

Indeed, accepted mathematical authorities agree that they are unable to solve the problem of the One and the Many. Whitehead approvingly quotes Russell to that substantial effect (*Ency. Brit.*, XVII, 881), and mathematicians from Newton on, definitely to that effect (*Ency. Brit.*, XI, 730). (Further proof is in my article, in *Monist*, July, 1925.) And one mathematician says the great Poincaré “despairs of mathematicians ever agreeing upon” the question of infinity—which amounts to asserting the same inability (Shaw, *Phil. of Math.*, 78). In short, the ablest mathematicians assert their professional incompetence. But they do it in highly technical, esoteric statements which average mathematicians can’t even understand. And mathematicians won’t agree that they thus admit incompetence. I have tried them; and they most emphatically won’t.

So our first practical step in making it easier for us to stop confusing one sort of word with another, is either (1) to require the mathematicians to stop poisoning our language at its source by orthodoxly treating all sorts of words as Many words, which obviously denies the One

or God and is the *base* of atheism and *all* immorality; or else (2) for us to dispense with the mathematicians' professional services, by declining to pay them for teaching such basic debauchery.

Orthodox mathematicians are more dangerous to our children than are the materialistic biologists some legislatures are dispensing with. There are a few good, or sound, biologists. But I know of no sound mathematician (except one who denies he is a mathematician), although I have diligently searched for one. Mathematicians are misleading, not only our children, but also the few good biologists and other scientists.

Bishop Berkeley almost two centuries ago correctly pointed out that mathematical fundamentals had become atheistic and irrational. As Berkeley could not *definitely* solve the One and Many, his attack upon mathematics was inconclusive (Cajori, *History of . . . Fluxious [Calculus] . . . from Newton to . . .*; Cajori is a mathematician, and of course can't see that Berkeley was right). So for two centuries mathematicians have been infecting everybody who would listen to them, especially scientists, with atheism. Our leaders are now so thoroughly poisoned with the mathematical denial of the One or One words, that the poisoning is clearly evident; and it would be wise to dispense with all mathematicians who are unable to grasp the sound solution of the One and Many.

Then, as the second practical step, we, in our everyday talk, can begin to stop confusing zero and infinity with Many or finite things. I.e., we can be careful not to say *all, everything, absolutely, perfect, exact, none, nothing*, and such One words, unless we actually mean either the whole One, or a standard One.

If we watch our talk we shall be surprised to find how often we fall into the mathematicians' wrong habit of not discriminating zero and infinity from the Many or finite things. I have been trying for fifteen years to break myself of that mathematical habit which wrecks thought and

morals, and I still fall into it sometimes in minor points.

There is nothing novel **about** that practical rule of not confusing zero and infinity (the One), with Many words. It simply amounts to saying that *we ought not to exaggerate*. If we exaggerate to the limit (i.e., to zero or infinity), we are *absolutely* wrong.

Ordinary good breeding definitely requires us to observe that rule. Hence, mathematicians and most other intellectuals are not well-bred.

Rules of rhetoric require us not to exaggerate, unless we are purposely trying to make our remarks sound ridiculous. Hence, mathematicians are sublimely ridiculous (and also tragic) when they make the infinite One into a finite Many. Another reason mathematicians are so fearfully inhuman, is that incessantly they solemnly mistake an infinite joke (or tragedy) for a commonplace Many fact.

Our practical rule against exaggeration has an even more conventional and ancient form. The Third Commandment is, thou shalt not take the name of the Lord thy God in vain. That essentially means that we are not to exaggerate a finite Many word into a One word. To do so is blasphemy, and naturally is immoral, as well as illogical or irrational. When ladies at tea parties chatter their *absolutely's* and *perfect's*, they usually are carelessly swearing—are talking radically or extremely, and somewhat wrecking their minds. Mathematicians have infected even tea parties with their verbal dishonesties. So it would be wise to protect our children from them.

In short, the general logical rule that the three kinds of words must not be mixed, may be more readily applied in this practical form:- *never use infinity or zero (or any of their numerous synonyms) unless we really mean the One or a standard One*. Or, to put that rule in the everyday form we have known for centuries:- if we would be logical or intelligible or honest or moral, we must not exaggerate, or be radical, or swear (by using One words carelessly when they are not meant).

Obviously, logic, when thus soundly stated, is a simple, practical subject. Indeed, that last paragraph sums up even orthodox logic. For, although it says something else, orthodox logic really means that we *observe* the universe and point it out or express it by words (technically named premises), and that truistically we should in subsequent statements express neither more nor less than what we *observe*, or thus "premise".

That obviously is the "point" of orthodox logic; and it is equivalent to our rule. Texts on classic logic are dry and dull because they omit that point—never *say* what they are really talking about,—and hence strictly are meaningless. If we mentally add the point or meaning to the texts, they become useful and human. But for the general purposes of this book we do not need any of the details of orthodox logic. We already know enough of them from our everyday use of language.

The chief difficulty of our intellectuals is not with logic, but is in having enough moral strength to use the sound logic that commonsense men know and use. So there is no use going into details of logic, when what is really needed are details of courage and character.

CHAPTER XIV

MATERIALISM AND MATTER

§1

THAT brings us to materialism, which modern science has been imposing upon stubbornly resisting commonsense men. We shall notice what materialism does mean, and thus see how to avoid becoming infected and diseased with it, as scientists are.

The common man has so stubbornly objected to what he prefers to call "materialism", that most scientists nowadays verbally claim that they are not "materialists"; and hold in one way or another that the word has no meaning or sense anyway. They hold they are not guilty of the crime; and even if they are guilty, it is no crime. So we have to see just what materialism is.

Practically all people, including intellectuals, at least intuitively recognize, and name in many ways, the difference between One words or meanings, and Many words or meanings. Even though scientists, especially mathematicians, technically decline to admit any such difference, they nevertheless, like us commonsense people, do have various names for Many meanings and opposite One meanings.

Some conventional pairs of One names contrasted with Many names, are as follows:- qualitative *vs.* quantitative; quality or essential or kind or sort *vs.* quantity or measure; class or classification or collection or system *vs.* an individual or unit or element or number; principle *vs.* concrete thing or "fact"; ideal *vs.* practical; theory *vs.* measure or [finite] observation; spirit or mind *vs.* body; logic or reason *vs.* science; religion *vs.* science.

It is plain that the only thing we absolutely know, or are sure of, is the universe or One. For, all the Many things we ever saw, or anybody ever *consistently* reported seeing, are moving or varying—in short, are *related* into the sure One.

If we measure (i.e., “scientifically” observe) *any* Many thing, we notice that it is continually varying in measure. In fact, we “measure” it by comparing (*relating*) it with some other Many thing, which we agree to use as a standard (say with a yardstick, or a lump of metal called a kilogram); and the *standard itself* *truistically varies* with every light wave it gives out or takes in, with every change in temperature and air pressure, every electric wave that passes, with every change in tidal or gravity pull of the sun or most distant star—and so on, in infinite regress.

The very fact that we “observe” a Many thing, implies, as an absolute truism, that it is moving, or varying relatively to other Many things. *That is what a “phenomenon” is:- change, or an event.* If “nothing” happens, then nothing happens; or no phenomenon occurs, *and we “observe” nothing.* A measure or observation of a thing *is* seeing change, and truistically involves sure knowledge of an absolute One.

It is further obvious, as an absolute truism, that we can not, and do not, *exactly* measure a changing Many thing by comparing it with some other changing, standard Many thing. We can readily get an *approximately* accurate comparison, close enough for our practical purposes. But as a matter of absolute fact, we simply can not get an absolute or exact measure of a Many thing. For Many things are always changing; and a given Many thing is in fact, and as an absolute truism, *not* absolutely the same thing *for any two consecutive finite intervals of time.*

Consequently, we *know* the One. But we are not sure of *any* Many thing. E.g., the Many thing called an egg is only vaguely and passingly an egg. It evaporates water under ordinary conditions, changing in weight. It changes

chemically all the time, being difficult to preserve as an egg for practical purposes. In a few days it may even be a chicken. An egg isn't absolute, or really dependable. Grocers long ago exhausted their ingenuity in describing in words or 'scientific measures' a dependable or *known* egg. If a grocer tried to sell us "exact" eggs that were always freshly the same, we should consider him either crazy or a crook. Scientists who try to foist "exact" electrons upon us are equally ridiculous.

We are not sure of the Many. Tomorrow any Many thing will be in a degree some *other* Many thing; and no man can say *absolutely* what. We are *sure* only of the *sum total* of the Many—sure only that relationship or law holds, to sum them into a One. Only the One is sure and unchangeable or *known* or absolute. Continually throughout this book we shall be seeing further proof of that.

In short, we can rely only upon the One—we *know* only *qualitative* matters, or principles, or God or the universe. Every experience or observation of every man is to the effect that that is true—and that time and space is not involved in such absolute or One knowledge.

But, scientists contradict those absolute conclusions. Scientists are so fanatic about the Many or "materials", that they, with extremely few exceptions, insist that we know only observed or experimental measures. Or, what even more emphatically amounts to the same thing, they insist that their "knowledge", or science, or measures, is absolute or sure, or the only respectable knowledge. They explicitly claim that there are "*constants*", or steady, sure measures in the universe—whereas there are no such things, and truistically can't be.

Most scientists resentfully deny that they claim absolute exactness for their measures, and some object that I am unfair to accuse them of such a thing. They point out that when they publish their measures they *state* that they vary, and are subject to small uncertainties. As a fact, their actual figures when fully given (as they usually are,

except in their "popular" writings), always do show variations and differences. But in spite of that, they do make essential claims to exactness in two ways, neither of which adheres to their *own* published *inexact* results:-

The first way they claim exactness amounts to the dogmatic assumption, with no proof whatever, that even though they do get actually different measures for (say) electrons, yet those electrons *are* in fact *exactly* or absolutely equal, or all alike. I.e., they *ignore* their own observations; and assert (flatly contrary to what they say they observe, and with no proof), that things *are* equal or exact, or "constant".

Their own figures more truly show the facts than they themselves will believe. In short, they are so blindly and dogmatically cocksure that the Many are absolutely exact or constant or *real*, that they persistently refuse to believe the evidence of their own eyes, which they themselves publish—and accuse me of unfairness for making the mild suggestion that they accept their own experiments. It is like *Alice in Wonderland*.

The second way scientists typically claim exactness is this:- When they observe two things which have such a *small* difference that the difference is indefinite, uncertain, or perhaps imperceptible to our present tools and senses, then they assert that the difference is *exactly* zero. E.g., Millikan actually publishes figures showing that his *indirect* measures of electrons are *not* exact. Yet because he can not definitely measure any difference between certain electrified oil drops, he and other scientists hold that there is *no* difference—that there is exactly zero difference between electrons, or that all electrons are exactly equal. As the latest example of such barefaced dogmatism, in the January, 1925, *Scribner's*, Millikan several times *agrees* that his figures are *not* exact, and yet he asserts (p. 79, in italics) the "*absolute value of the electron*", and again in the same column, that "electrons are *invariable* in their charge".

Such a claim is (1) purely dogmatic (for it asserts that

an exactly zero difference *was* observed, although the truth is that our instruments were observed to be not accurate enough to measure definitely whatever *small* differences may exist); and is (2) flatly contrary to the measurements that *were* made (which were *not* all equal). In short, when Millikan is given a Nobel prize for showing that all electrons are exact, and no scientist objected (see Chap. 20 §§1, 2), it truistically follows that as a rule scientists are dogmatists, or fools, or somewhat both.

Millikan asserts flatly in his book, *The Electron* (1st ed., 70; 2nd ed., 72), that he gives "*direct, unimpeachable proof that the electron is not a 'statistical mean'*", but on the contrary is *exact*. Incidentally, that very same sentence (which he italicizes as being important), in which he asserts that the proof is "*direct*", states further that in fact it was *indirect*—which shows how incoherent, and openly dogmatic, our scientific leaders are. Millikan also asserts (1st ed. 114-5; 2nd ed. 116-7) that the "absolute weight" of any atom or molecule has been obtained, as well as numbers of other "constants" which he names. As practically all scientists accept those assertions either approvingly or in condoning silence¹ (and have done so for seven years, according to Millikan's preface to his second edition, dated May 18, 1924), it necessarily follows that their resentful denial that they claim exactness, is lacking either in simple honesty, or in elementary intelligence.

The basic *reason* scientists claim "exactness" is as follows:- They substantially deny the reality or importance of anything but measurable quantities of materials—are materialists: make measured matter their God. Therefore, just as soon as two quantities get so closely the same that they can't definitely measure their differences, then obviously the scientists either (1) have to admit their ignorance of what they claim is of supreme and essential importance, or else they (2) have to assert dogmatically

¹ My *Universe* vigorously objects to Millikan's typical exactness. So those scientists who have publicly approved *Universe* have published disapproval of exactness.

that the difference *is known*, being *exactly* zero. If they admit lack of knowledge which they say is essential, they feel badly (have really lost their God, their religion, their self-confidence), and also admit incompetence and are in danger of losing prestige and perhaps their salaries. So they choose the alternative, and dogmatically (i.e., dishonestly from *our* point of view) assert that the difference is exactly zero.

In short, the basic trouble is that the scientists have got their fundamentals wrong; that gets them into trouble, and then they haven't got the moral strength or courage to face the truth. They fool *themselves*; they *think* they are telling the truth. But they need not fool us, as the matter is very simple indeed.

Consequently, most of the scientific claims to exactness consist of asserting that small, *not definitely measured* differences between two or more things, are non-existent, or are exactly or absolutely zero. I.e., they claim there are "constants". Because they *can not* definitely measure a Many quantity, they in effect claim that they *have* measured it, and that it is exactly zero—"constant", or non-existent.

Until they stop making such brazen-faced dogmatic claims, we need not take seriously their denials that they claim exactness, or their disclaimers of materialism.

Then, contrary to those claims to *quantitative* knowledge or exactness, scientists disclaim *any* sureness in One knowledge or principles, or laws, or in what they call "hypotheses". As we saw, they even go so far as to hold that they are not interested in qualitative matters, or reality. They ordinarily scoff at "essentials", or logic, or values.

They substantially claim that only a matter that can be weighed and measured is "truth" or scientific knowledge. And the base of science, orthodox mathematics, flatly claims that only Many words say anything, or constitute knowledge. Indeed, Wittgenstein, who is extravagantly acclaimed by other scientists, asserts that there is no action-reaction (*Tractatus L.-P.*, proposition 6.37); no cause-

effect (5.1361); that science has absolutely nothing to do with morality (6.42), or God (6.432). Of course, the average scientist has neither the logical consistency, nor the mad courage, of Wittgenstein, and hence does not make such clear statements of what science actually basicaly teaches: compare Wittgenstein's remarks with Millikan and Kelvin's vague and flabby statement of the same thing (Millikan, *Electron*, p. 4).

Thus scientists in their practice precisely reverse and contradict the truth. They hold (1) that quantity, or scientific measures, or matter, or the Many, is exact or absolute or constitutes knowledge; and (2) that principle, or the One, or God, is vague, uncertain, and isn't even of enough importance to be interesting to scientists. They thus *are* materialists—regardless of what they diplomatically *say* they are.

Such practical materialism is obviously of importance in our lives. It has (1) practically reversed the essential meaning of "faith" or religion, and (2) confuses our fundamental views.

The primary meaning of "faith" was:- sure, dependable knowledge. Scientists have so thunderously insisted that only quantitative, measured knowledge is reliable, or even "knowledge", that "faith" has now mostly reversed its essential meaning, and "scientifically" equals an uncertain "hypothesis". Faith, or religion, is now something we don't know, but guess at, and discard at convenience like worn clothes.

In brief, scientists insist that we rely upon the unreliable, and distrust the reliable and sure—insist that we become futile and timorous cowards, instead of steady men backed by sure knowledge.

So it is clear why the commonsense man is increasingly objecting to that scientific materialism—regardless of what scientists name such attempted reversal of all that is reliable and steady. The average man has correctly seen that scientists, by exaggerating the Many, are denying his religion—his sure foundation.

§2

But even more clearly does the average man notice and object to another "scientific" contradiction of common-sense.

When scientists hold that *Many* or material knowledge is exact or actual knowledge, they truistically hold that it is absolute or essential knowledge. Indeed, we have repeatedly seen that they disclaim interest in other sorts. Thus they hold principle in low esteem. They professionally act as if it makes no difference whether man has any principles or not. Diplomats take their cue from scientists; and when they accept something "in principle", mean that they have no intention of acting that way if they can help it. Scientists discard their hypotheses, or passing principles, as a child does his broken toys: we noticed Millikan saying that something was truth "for the present".

Scientists thus are openly and blatantly unprincipled.

Of course, in sum total of their activities most scientists are fairly decent men. But *professionally* they *claim* to be unprincipled, and most offensively urge all men to be so. And as no cause is without an effect, naturally such vicious claims affect them, and us.

Hence, scientists professionally claim ignorance or humility and modesty where the commonsense man knows he knows—knows that even children know. So scientists consider the average man offensively immodest. But plainly, the average man happens to be right, and scientists wrong on this point of humility.

No quantitative or *Many* problem may be exactly or absolutely expressed or "solved"—for always the infinite regress is involved. Scientists claim precisely the opposite, and hence deify "quantity", or are materialists. On the other hand, every qualitative or *One* solution is in general known absolutely—even by normal children.¹ So scientists

¹I of course agree that a child usually can't *express* the solution in a verbal form that would satisfy a logic-chopping mathematician. But that scientist's dissatisfaction with any given answer is due more to his own ignorance of language,

can have no sound humility. They blatantly are cocksure about solutions that can never be got by any finite man. They are even more offensively cocksure that our One solutions are of no importance and negligible, and can't be got anyway.

Scientific materialism takes still another offensive or immoral form. Anything which we consider absolute or essential, or (in theological terms) divine, is, as an obvious truism, uncompromisable. Truistically, a thing that is infinite is infinite, and is, as such a One, absolutely unchangeable. We simply will not tolerate any tampering with it. A principle is a principle, and no man who is in the least a man, will even consider tolerating a compromise as to the principle itself. Yet scientists try to persuade us that the One isn't a principle, but a mere hypothesis; and that therefore we should tolerate a new hypothesis daily—be regular jelly-fish, indeed, with no principles.

On the other or *Many* side, scientists hold that their quantitative facts are the only genuine knowledge, or are absolute—and hence tacitly are divine. (Of course, scientists avoid the word *divine*.) So naturally they are intolerant towards those who question the exactness of the Many. I quoted Cattell as rejecting my questioning, as a typical case; also, see the Millikan case in Chap. 20 §1. They try to make into a principle what we know must always be compromised, observed anew, and adjusted.

than it is to the child's lack of skill in handling language. If the normal child is given the One problem in a form he can understand, he can express the answer quite intelligibly both to himself, and to anyone who has actual knowledge of language. — Time after time I have had authorities scoff at that fact or proposition that a child can know or solve all essential problems. Obviously, the proposition is nothing more than the truism, that language is essentially truistic, so that if a child understands a One question, the answer is obviously the question put in the declarative form. Also, I have seen children succeed with such questions every time. Still further, the proposition obviously amounts to nothing more than saying that a child has what we in common terms call a "*conscience*"—or in more specific terms, has a "*consciousness*" of the One, or *recognition of cause-effect*. So any intellectual who desires to refute this proposition is obligated to prove that a normal child is not conscious. Further, the fact that scientists scoff at the proposition is evidence that they are materialists. They in effect deny "*conscience*". Such denial is glaring evidence that they have so spoiled their own minds that their own conscience no longer works well enough for them to perceive and acknowledge the existence of any such thing. That shows again that science is basically immoral.

Thus scientific materialism tries to break down what we know should be maintained without compromise, and tries to hold fast to what we know is passing and unessential, and must be compromised.

In sum, it has been shown that modern science, by trying to deny or abolish conscience and compromise principles, truistically tries to undermine and destroy the total base of society and manhood.

§3

Scientific materialism not only is blasphemous in principle, but in practice it then naturally wastes time and money and opportunities.

E.g., forty years ago nearly all scientists held the *atom* to be eternal, perfect or absolute, unchangeable—in short, exact. So they wasted effort concocting fairy stories or hypotheses that would fit that error. But the facts of vacuum tubes and radioactivity were forced upon their attention, and they finally had to abandon those efforts.

Nowadays the scientists are nearly all trying to hold electrons exact. Millikan definitely asserts (*Science*, May 30, 1924) that *all* scientists agree that they are. Yet Millikan in that same place, and Russell in his *ABC of Atoms*, admit that such a view leads to flat self-contradictions. Millikan says in plain effect that if God wants to be irrational [i.e., a fool], far be it from Millikan to object. And Russell rather agrees with Eddington that the world [or God] is irrational or idiotic (Chap. 13 §1). Scientists apparently prefer to believe their God is an idiot, rather than seriously consider the possibility that something may be wrong with their own thinking. They call that:- modesty and scientific caution. Megalomania or swelled-head is a better name.

So most scientists go blundering along, trying to prove, and adhere to, something which is wrong. As a truism, such conduct blinds themselves to sound fundamentals, and

largely wastes their time and the money we have to provide to support them—and wastes our lives, and especially our children's lives, whenever we take them seriously.

Our correct rule holds simply that we must not *confuse* zero or infinity with finite or material things. That agrees with our commonsense that *both* the One and the related-Many are real and useful in living.

We don't have to be fanatic materialists like the scientists, who either verbally deny God, or else "reason" that he is an idiot—which perhaps is worse than denying him. Nor do we have to be a fanatic religionist, who denies the Many—who condemns the world and the flesh.

So our sound practical rule gives us the benefits of both religion and science. It gives us both the kingdom, or grasp, or use, of God; and the kingdom of science, or the Many.

The rule rather automatically takes care of relationship. We serenely and confidently rely upon it—have courage or knowledge. For it never puzzles us. It neither forces us to worship a God "scientifically" proved to be an idiot; nor does it force us into equally stupid rejection and contempt of God's material aspect all around us. That material aspect is the revelation of God to us, who are finite parts of him.

§4

Indeed, the rule is so absolutely sound that we may go on with it, and find out what the truth is *directly* from the *scientific* point of view.

We have:- *The related-Many = The One*. The *related-Many*, or "science", is as absolutely true as *The One*. I.e., in *some* way the Many really is exact or absolute. We desire to find out in *what* way—to find the logic or *sound language* in which the Many is consistently and soundly real, without contradictions and without "scientifically" proving God an idiot.

The solution of that is extremely simple—although most intellectuals refuse to accept it. It is this:- the Many parts are *infinitely* numerous—and if taken *strictly* in that sense, each such Many part is absolute, or exact, or real.

Or, what amounts to the same solution:- relationship holds between any and all parts of the One (i.e., relationship continues in absolutely infinite regress), so that trivially each Many part is *absolutely* zero.

In short, there is *no* absolute or exact *finite* Many part *that endures for a finite time*. There are no sharp, fixed Many things of *finite* size that last for any time—no such things as *finite* exact or absolute electrons, or atoms, or anything else.

Of course, it sounds queer to say that there are exact and absolute things which are of zero size. It amounts to making a *new* language—a sort which may be called capsized, and one which is nominally the reverse of our everyday one.

But that is the language science is more and more falling into, without understanding it or using it properly—and all the time fancying and claiming it is using *our* language.

Scientists are weak and timid, and are afraid to use such a language openly and boldly, but keep stopping at various smaller and smaller steps towards it—holding at each step that they have reached finality or “truth”. They reduced matter to absolute or “final atoms”. Then they denied such exact atoms, and dropped to the much smaller exact electrons. Already many have dropped from electrons to the smaller “quanta”—and claim to hold both, while admitting that they contradict each other (see Russell’s *ABC of Atoms*).

However, if we express that queer-sounding zero-size Many part in another, simple way, we at once see that we know it is true:- Any “thing” we observe can be divided into smaller parts. *If* we observe an electron, or even a quantum (which vaguely is one wave of light), *then* obviously we simply can’t conceive of its not having parts. We

of course may not be able to make a tool fine enough actually to cut it into more parts.

But we can't imagine (say) an electron which hasn't smaller parts. The reason we can't is because a *finite* electron, with *no* parts, is truistically a flat self-contradiction of words. We can *write* such a contradiction; but by the very nature of language and reality the words absolutely fail to *mean* anything. The only exact or absolute material or Many part we can self-consistently name is the one which has been infinitely divided, and hence has no size—in short, is what in ordinary language we call *immaterial*, or not finite.

Or, we can understand that in a simpler way. Suppose we bounce a rubber ball on the floor. The inner parts of the ball are moved somewhat from their usual positions when the ball hits the floor—the ball “squashes out” some. In various ways those inner parts then react with each other, pushing some of the parts back again (for statement of those ways, see Part II). That set of relationships or actions-reactions is called the “bounce”. Obviously, absolutely nothing could happen to the ball unless there were some such relative movement of its parts. An absolutely exact or unchangeable ball could neither “absorb energy” nor give up energy: it wouldn't even give off light, and we couldn't see it. Such a ball, absolutely without parts, truistically could not exist.

So truistically with that, any *finite* part of matter which could have *anything* happen to it (which could even be said to exist) must have relative motion of its parts, and therefore must have parts, or a “*structure*.” If one electron bounces around among atoms, or inside an atom (as scientists say it does when *any* sort of phenomenon occurs), then, as a truism, that electron must have some smaller inner parts, like the rubber ball. And truistically, the electron will wear out or “disintegrate”, just as the ball observably does when bounced enough. It is always changing, and is never exact.

So, as absolute truism, the electron's, or *any* thing's, *only* absolute or exact parts are zero in size. Or, from a *direct* scientific point of view, Many parts are *infinitely* numerous.

§5

In short, when a scientist says that a finite electron is exact or unsplitable, or final or perfect, he plainly asserts that it is an absolute One of itself. He gives an electron, or matter, the perfection and ultimateness of God, or the universe. Such materialism therefore truistically holds that the universe is made up of numerous absolutely separate and finite unrelatable little Gods. It is polytheism; paganism; and obviously is self-contradictory bosh.

We commonsense people take care of all those ultimate and queer-sounding scientific details by persistently holding to, and using, cause-effect or relationship. We thus mean that "matter" is *continuous*, logically divisible forever, plastic and movable and elastic, "workable" or usable, and is *not* perfect or exact or unchangeable and absolutely "hard" or "substantial" in *any* respect. In short, we stubbornly refuse to be materialists—to accept "perfection", or "finality", or essential divinity, in any finite part or thing.

As a fact, scientists themselves *in part* of their practice or expression, are forced by the glaring facts to agree with us that matter is thus divisible forever, or doesn't come in exact, finite lumps:- All their electrons are alleged to have absolutely continuous, forever splittable "fields", so that what actually amounts to a real electron is the orthodox "electron" *plus* its absolutely inseparable field. That real electron amounts to the same sort of continuous, variable matter we mean. (Contradicting that, scientists nowadays vaguely try to *split those fields* into exact, absolute lumps called quanta. Of course, the obvious fact is that scientists are densely ignorant of what they *are* saying, and indiscriminately contradict themselves.)

But even though men never really *mean* that matter is absolute, and comes in perfect lumps or finite Gods, yet intellectuals baulk at giving up their exact, divine *finite* parts, or polytheism—as shown by the following facts:-

Theologians condemn “matter”, or the world and flesh. So obviously, they must accept matter as being what the scientists say it is, and are materialistic. They are also silly in another way:- for if perfect finite matter *exists*, it would be wrong to object to it as they do. To object to it would be to condemn God for making it—to hold that God essentially is evil—or idiotic, as the scientists substantially do.

Most philosophers are even worse confused than the scientists and theologians. I judge you have observed that fact for yourself, and do not wish me to prove it here by quoting some of the philosophers’ clouds of words. But see *Universe*, if you have time for their views; they are occasionally summarized there.

Because our intellectuals (even the theologians) verbally insist upon exact matter or materialism, and have been doing so for thousands of years, almost all of our more technical words are based upon a tacit assumption of perfection or divinity of finite parts. I.e., most of our technical language is implicitly idolatrous, polytheistic, or materialistic.

The worst practical result of such mathematical or scientific exactness is that some intellectual reformer or pin-head statesman is always bobbing up with a panacea—a perfect, absolute, exact little finite cure-all or idol (usually some mere “exact” verbal formula), that is guaranteed to cure absolutely whatever the rapid-fire uplifter thinks is the perfect evil. Ordinarily, all we are supposed to do is to follow that “thinker’s” divine exact Idea, and get some legislature to “pass a law”. The still “higher” thinker tells us that if we will all absolutely damn the Victorians, then everything will be perfect. And so on. It is all just like a mathematician’s having an exact idea. And it is glaringly bunk.

Consequently, (1) we common people intuitively object to what we call technicalities, and doctrinal theology. Also, (2) when I have to use *really* precise and sound language, and say that matter which *is* real and exact or perfect, comes in lumps of zero size, we are not accustomed to such 'immaterial' words and think we don't understand them.

It probably actually will take a generation or so to get accustomed to such *soundly* scientific Many words. Indeed, the present generation of intellectuals are so tainted with exact science or polytheism, that most of them will be incapable of ever seeing this simple truth about the Many. We shall have to wait until the present generation of intellectuals die off and get out of the way, before our intellectuals will begin to accustom us to sound, self-consistent words.

There isn't even a definite name for a sound expression of the infinite Many—for *sound* science that expresses itself *definitely*. Until some genius in words invents a good term, we may get along with the clumsy, but definite, name:- *infinite pluralism*. I.e., the related-Many expressed *directly* as real, is an infinite pluralism.

That name obviously means that if we point out *any* finite Many part, then that part not only is continuously related to all other Many parts, but is itself forever divisible into related parts or acting-reacting structures, down to exact or absolute Many parts which are zero in size, or "immaterial". *Pluralism* means a plurality, or number, of things. *Infinite pluralism* means that any thing is forever divisible, or continuous, or really a *related-Many*. *Infinite-pluralism* is of course a verbal contradiction (just as *related-Many* is), which *properly* cancels the *other* verbal contradiction between the One and Many.

Obviously, *only* if we are explicitly *infinitely* pluralistic can we self-consistently use standard Ones in our everyday language. For only then is each standard One itself workable or changeable.

E.g., when scientists talk about the “properties” of an electron, they are using an electron as a standard One. Now, if the electron is exact, or not further divisible, it truistically can’t react with the rest of the universe. In that case there truistically is *nothing* to say about the electron, either externally, or internally about its no-parts—it becomes a perfectly ineffable or mystic One.

Such statements are again distressingly unfamiliar. I have to put them in here, however, to show that our trinity or commonsense logic is absolutely rigorous. Now that we have got to the absolute completion of the general statement of that logic, we commonsense people need not bother much with such unfamiliar infinite pluralistic details. They are matters chiefly for the mathematicians to work out, after the present perverted generation of mathematicians are gone.

CHAPTER XV

WARFARE OF SCIENCE AND THEOLOGY; OR DUALISM AND AGNOSTICISM

§1

THE last chapter considers the difficulties which are partly the cause, and partly the result, of polytheism or materialism—of mathematical or scientific “exactness”, pseudo perfection, or of reliance upon mere formulas or “passing a law”.

Our leaders themselves have had painful experiences from such exaggeration of just the Many part of the trinity. So nowadays, perhaps most of them at least *verbally* recognize the One, as well as the Many. But they still more or less deny relationship.

Even theologians treat the Holy Ghost, or relationship, or God-is-love, extremely gingerly, and with a brevity that amounts to practical ignoring. E.g., in (1) a typical catechism, and in (2) a typical statement of the fundamentals of religion, the Holy Ghost is considered *specifically* but once each; in but one short, vague sentence in each; and in both cases, is considered wrongly (i.e., that Holy Ghost is restricted to a part of the universe [“people” only] in the catechism, and made definitely a Many in Art. V of the Thirty-Nine Articles: see the Episcopal prayer book).

Since Bryan and the Fundamentalists began their legislative attacks upon what they, with correct *intuition*, call materialistic science, even the exact scientists have taken to publishing statements that they believe in God or religion and also science or the Many. Millikan got out a formal *Joint Statement* to that effect, signed by 16 religious leaders,

and 15 scientific leaders (including himself), and by others, that was widely published in newspapers and periodicals (reprinted in Millikan's book, *Science and Life*, 86-90).

The more intelligent of such dualists see that the One contradicts the Many. Catholic theologians explicitly, and other theologians more evasively, follow Paul's (and St. Thomas Aquinas's) doctrine of the dualism or antagonism between things of this world (the Many), and things of the spirit or of the kingdom of God (the One), and conclude that (1) science or the Many and (2) religion or the One, are "entirely different spheres of reality", which have nothing to do with each other.

For the scientists, Vernon Kellogg says the same thing in the May, 1924, *World's Work*:- "Evolution concerns one category of human realities, religion another. Evolution concerns man as a link in the chain of animate matter. It does not concern him as a repository of spirit, soul, and religious yearning and faith. How these came to be in him, the evolutionist does not know . . . But what is there in this to become unduly excited about? . . . evolution has to do with biology, not with religion. The evolutionist, as evolutionist, has nothing to do with the Bible . . . He may believe in God or not . . . There is little to debate and little reason to become excited about the relations of evolution and religion".

Kellogg is one of the highest officials in control of the money endowment of science in this country—holds high place in the scientific interlocking directorate, analogous to a cardinal in the church.

Incidentally, *sound* evolution is relationship or natural continuity, or *is* spirit, soul, or real religious faith. Evolution is soundly a relationship word (as shown in detail, Chap. 26). Yet Kellogg flatly says he knows "evolution" has nothing to do with such things. He thus flatly denies relationship words, and says "evolution" is materialism.

The more intelligent dualists thus assert an absolute opposition or separation of the One and the Many. Although

such an alleged principle of real contradiction is intolerable, and absolutely miraculous (i.e., absolutely without cause-effect, and unthinkable), still they are willing to compromise it, or tolerate it. Paul, Thomas Aquinas, Kant, Plato, Descartes, Machiavelli, Napoleon, the late Kaiser, Herbert Spencer, and William James (except apparently in his last book, *Radical Empiricism*) are well-known dualists—and all of them basically contradict action-reaction, and genuine Christianity, and our Constitution (see Part III).

The less intelligent dualist simply dogmatically asserts that there is “*no conflict whatever*” between orthodox science and religion, as does Millikan (*Sc. and Life*, p. 43).

The less intelligent dualist is usually an exact scientist or materialist, complacently ignorant of the fact that to be simultaneously a materialist and a dualist is self-contradictory.

§2

To admit, or even imply, that there are dualistically two opposite or separate truths, is truistically to assert fundamental ignorance—is to assert agnosticism, which *practically* is merely a sugar-coated name for mental incompetence, and for being a “quitter” or contented failure.

Since the scientists, like Millikan and his fourteen colleagues, have started declaring their belief in God, the only intellectuals I know of who are not at least tacitly agnostic are the Fundamentalists, Christian Scientists, and theosophists, who nominally accept only the One; and Bolsheviks, mathematicians, and other varieties of atheistic materialists, who nominally accept only the Many. Those Fundamentalists, etc., are comparatively not numerous in this country. So we may say with fair accuracy that nearly all our intellectual leaders are at least tacitly agnostic—are dualists, and hence admit contradictions and “mysteries”, even if they do not openly admit agnosticism.¹

¹ Before the Fundamentalists started attacking scientists for “atheism”, etc., a psychologist, Leuba, gathered statistics on the religious beliefs of scientists. His findings were published in a book, *The Belief in God and Immortality*, in 1916

An authoritative American theologian states (*Ency. Brit.*, Art. *Christianity*, VI, 289) that officially both Protestant and Catholic churches assert doctrines which many official scholars in those churches find "no difficulty" in rejecting and "remaining Christian"—that men are not willing to carry "principles" to their consistent conclusions, but that "by a fortunate power of mind they are able to believe as truths mutually inconsistent propositions". In short, he asserts (1) that the churches officially lie; (2) that they condone (even recommend) compromise of principle; and (3) that the churches know they lie and compromise principle.

Such, in the long run, is the result of dualism or agnosticism—of professional incompetence.

But I request the reader to notice that *I* do not accuse theologians (and philosophers and scientists just below) of lying. I merely quote *them* as in plain effect saying they lie. They know practically nothing about basic psychology, and exaggerate in their statements to the effect mentioned,

(2nd ed., 1921). Speaking roughly, he found that more than half our scientists either disbelieved there was a God, or doubted it—and that only about a third of the *prominent* scientists believed in a God. E.g., there were only 16.9 percent of what Leuba calls the "greater" biologists, and 13.2 percent of the "greater" psychologists, who believed in the existence of "a God to whom one may pray in the expectation of receiving an answer" (2nd ed., 255, 267). In my judgment, Leuba so peculiarly formulated the questions he asked scientists, as to show statistically considerably more repudiation of sound religion by them than actually existed: for the complicated facts, see the book. But even if his statistics be thus biased, still Bryan's later legislative attacks upon scientists have resulted in a remarkable conversion of them to religion—publicly, at least. Millikan states (*Science and Life*, 84) that fifteen-sixteenths [93.7 percent] of the *prominent* scientists whom he asked to sign his *Joint Statement* accepting the existence of God, "*signed it at once without a question*" (his italics). As noted, only about a third of Leuba's prominent scientists accepted God. It thus appears that although the scientists call Bryan various hard names, and are anxious to say how much he amuses them, he has succeeded in converting a large percentage of them to public acceptance of God (even after subtracting for Leuba's bias). In my judgment, that speaks poorly for the moral courage of scientists, but chiefly indicates their profound ignorance of this whole matter, and lack of real convictions. Bryan is densely ignorant intellectually on this subject, although not more so than is the average scientist (as will appear, especially in Chap. 27 §2). But Bryan has great courage and admirable strength (except practically for a soft side towards "deserving Democrats"), and he intuitively judged right that most scientists are materialists and agnostics, and as such are not fit to teach anybody. — Mr. Bryan died when this book was going through the press. If I were rewriting the foregoing, I should make no substantial change. I think that Bryan's death at this time is a considerable loss to the country.

as in others. What they are guilty of, is hypocrisy, which is considerably different from lying (see Chap. 30)—usually is unintentional over-doing of self-control.

Similarly, William James cynically describes philosophy as the activity of a blind man in a dark room looking for a black hat which isn't there. With even more reckless irresponsibility, James agrees that science proves the will is not free, but that in his ethics he will contradict that and teach a free will.

Russell says that mathematics may be defined as the subject in which we never know what we are talking about, nor whether what we are saying is true. Yet Russell and other mathematicians keep on publishing, apparently as truth, what they thus say they know nothing about. Wittgenstein, with even more scientific brashness, concludes finally (*Tract. L.-P.*, 6.54) that all his scientific propositions (which he says are the only kind that *can* be expressed, and which he does publish), are senseless. Then Russell and other mathematicians give Wittgenstein superlative praise.

Millikan (in his article *Science and Religion*, reprinted in *Sc. and Life*) says that scientists dispute whether law holds in the world (and twice in his "exact" description of atoms, which he says all scientists agree upon, he finds a failure of law, or an irrational God: Washington address, printed in *Science*, May 30, 1924). He thereupon concludes (p. 64), that if his views are dreams, "then let me dream on forever!"

Thus, theologians, philosophers, mathematicians, and other scientists, in glaring effect cynically and brazenly assert that they teach doctrines they know are self-contradictory, or unsound.

There was in Rome a college, or scientific institute, of men called augurs, or fore-tellers. Those augurs, being consciously dualistic like our scientists and theologians, became cynical and agnostic, so that a saying came in vogue which

even now is often recalled, that two augurs couldn't look each other in the face without bursting out laughing over the bluff they carried on. The Roman people complacently accepted that cynicism or agnosticism, and went to pieces.

So the historically indicated answer to Professor Kellogg's question (What is there in orthodox science to get excited about?) is:- if we do not become interested concerning the cynicism our modern augurs are insolently flaunting in our faces, but on the contrary calmly accept it meekly and indifferently as being all right, then of course we too shall go to hell like Rome. Indeed, a good many of our augurs are already pessimistically wailing over our downfall. They naturally feel weak, and futile, and failing inside, themselves—and "transfer" it to us.

But according to my observation, we commonsense men, with a considerable amount of interest (or of what Kellogg superciliously refers to as undue excitement), are recognizing the deadly character of the intellectuals' materialism and agnosticism, and are refusing it. Note the Scopes trial. Perhaps we are not so sure about the wrongness of agnosticism as we are about the wrongness of materialism. For agnosticism or dualism is a more complicated mess of verbal bosh than materialism (Chap. 13 §1).

Dualists can *superficially* be as widely different as Paulineists or Catholics are from Modernist theologians or German "higher critics", and as the mathematical Russell is from the biologist Kellogg and from the verbally fervent Protestant church member and physicist Millikan. But all those are *basically* the same—all are dualists and agnostics. For to all of them "faith", and even "knowledge" of any sort, means, not real knowledge, but a forced (i.e., pseudo) and really uncertain "belief" or verbal acceptance of "authority", in the face of (at least tacitly) asserted contradictions, or irrationalities. They all agree in one basic thing:- that there is an essential split, or separation, or contradiction (i.e., dualism), in the universe or God.

Most of us commonsense men become a little puzzled among such a diversity of quarreling agnostics—especially as most of them about half the time abandon their own dualism or belief in two contradictory sorts of words, and revert to belief in only one sort (usually materialism). But still, we are rather clear in our minds that their agnostic doctrines are tricky and unsound, even when they use the word “*mysteries*” instead of “*agnosticism*”. And we are especially clear in our minds that the sugar-coated name “agnosticism” *practically* means incompetence and “quitting”.

So we pick out what we can of the truth from the remarks of the intellectuals. We gratefully accept the material facts and benefits of science, while properly looking with suspicion upon scientists.

Most of the appliers, or users, of those scientific facts (i.e., our physicians, artists, and newspaper men, and the various sorts of business men and engineers), retain their sound commonsense, rejecting the basic errors of the intellectuals. Then most of us properly join those scientific goods to One goods, by belonging to a church and to various matrimonial, fraternal, political, and industrial organizations.

We don't believe the minister's usual doctrines. Indeed, we rarely let him preach any sort of theology outside of old, well-worn ritualistic formulas our mothers happened to make us like, and which we know mean nothing in particular to us intellectually. In fact, we spend our church money mostly on pleasing buildings, music, and sociability, and a minimum on the minister—which is as it should be, so long as the minister deals in agnostic or Pauline “mysteries”.

We join a Rotary club, and the Elks, and go to the movies, read the newspapers and magazines, and get closer together with our family and neighbors in whatever way strikes us as effective—even if such immaterial goods cost us considerable material goods, and use most of the time which scientific conveniences have saved us.

Plainly, in such actual living we do reconcile the One and Many into the sound *Related-Many* = *The one*. We do it by the directest, most effective method:- that of simply putting material things together into immaterial or the infinite.

Of course, the agnostics and materialists then heap scorn and abuse upon us. They roundly berate us because we don't go to hear their orthodox theology, don't read the "higher" literature, fail to see beauty or even sense in orthodox mathematics and philosophy, refuse to recognize the importance of studying "exact" electrons, but on the contrary largely neglect such radical flights of the human mind, in order to enjoy material things, and to enjoy such "common" One things as loving our own wife and children instead of somebody else's wife and no children, and in order to engage in such unspeakably vulgar One joy as loving our neighbor in a Rotary club, and reading useful and intelligible periodicals like *The Saturday Evening Post* and *Collier's* and *The Literary Digest*. Worst of all in their opinion, we are inclined to be amused by their scolding and "uplift".

§3

Our intellectuals, in defending their agnosticism, are now making the New Testament "Pilate" their hero. They speak approvingly of his asking what is truth, and washing his hands of responsibility. They overlook our commonsense fact that it was Pilate's official job (as it is theirs) to find out the truth, instead of indulging in brilliant agnostic rhetoric about it; and that for Pilate to wash his hands of responsibility was overt treason, contract breaking, "log-rolling", passing the buck, and "quitting". They try to persuade us that Pilate is an impartial, tolerant, disinterested scientist who saw no reason for getting "unduly excited", or interested, over the little matter of doing his job honestly.

In a current periodical a teacher in the University of Chicago states the typical scientific doctrine, that there is no such thing as responsibility, especially moral responsibility (*Current History*, June, 1924). Two students of that university took such customary scientific doctrine seriously, and recently kidnapped and killed a boy—as a scientifically disinterested experiment, without getting “unduly excited”. If *our* children believed most of their professors, truistically they would do likewise.

In fact, the dualists or agnostics, as a general truism of their dualism, take the whole universe as being basically conflicting—as irreconcilably at war. They say the world has “really neither joy, nor love, nor light, nor certitude, nor peace, nor help for pain; and we are here as on a darkling plain, swept with confused alarms of struggle and flight”.

So our leaders teach us to “struggle”. In sociology, each nation is dualistically held to have *absolute* sovereignty (absolute “exactness”, like orthodox electrons), and *irreconcilably* fights or competes with other nations. In biology, such dualistic life is an absolute struggle for survival or fight for existence, which becomes in economics irreconcilable conflict between labor and capital, producer and consumer.

In such orthodox theory, the dualists urge us to fight, to be dualistic, and destroy our neighbor, so that he may not destroy us. But at the same time they futilely say that probably the idea is wrong—and that anyway, we are sure to be destroyed in the end, so what’s the use?

That is obviously the condition of mind of our usual leader now. The cause of his trouble is that he overlooks relationship. Relationship *balances* each act with a reaction. An action, or “fight”, *never* destroys or reduces to *zero*; there is no reaction, no life, without action.

The usually accepted, almost truistic, general causes of the world war were these:- rival or struggling alliances; competition for territory, for power or prestige, and for economic or material privileges; increasing militarism and armaments, with their heavy and irritating burden of taxes and jingo boasting; suspicion and fear between nations.

Plainly, those "causes" are merely different specific ways of naming the dualistic, self-conflicting "faith" of our intellectuals, with its strong bias towards materialism. The basic errors of our leaders were therefore the underlying causes of the world war. We incautiously followed them a trifle too far.

Dualists thus make conflict or war a One word and a One reality—say it is fundamental or infinite in the universe, so that all Many things must forever eat up all Many things. They are merely ridiculous. All Many things can't any more eat up all Many things than a snake can keep swallowing its tail and disappear, or become zero.

Conflict or war is a *relationship*, or action-reaction, between two or more Many things; and ultimately means absolutely the same thing as the relationship love or service, being merely the *reverse naming* of love—and is usually *quantitatively* more violent. *All* relationship is finally circular union in a One; so it is nonsense to try to make *any* aspect of relationship continuous forever in *one* direction. There is no real "direction" in a circle or One. Absolute pacifism (i.e., absolute one-direction infinite love or "sacrifice" or unselfishness) is obviously as wrong or nonsensical as absolute or irreconcilable war.

The solution of the dualists' alleged irreconcilable One conflict is, that if two Many things *attract* or love each other, then (from the point of view of the *whole* One) those same two things relatively (i.e., by that *same* relationship or love) *repel*, or in a *quantitative degree* conflict with, *other* Many things; so that in principle there *is* (inevitably) absolute balance of "conflict" with "love".

In short, to try to exaggerate any "direction" of relationship (either war or peace) to infinity or zero, is radicalism and is wrong—as we saw in Chapter 11.

As a truism of all that, to be moral or successful in everyday Many affairs we must be temperate, or balance selfishness and unselfishness, repulsion and attraction, conflict and love.

Those dualists who hold the extreme idea of essential or absolute "conflict", are wrong. Similarly, those who go to the dualistic extreme in the other direction and recommend complete altruism, non-resistance, or *zero* "struggle" are also wrong. The truth is that action-reaction *is* equal; and it is immoral or stupid to try to avoid that principle.

So in practice I try to follow this moderate, balanced rule:- If a man (either actually, or figuratively) hits me on one cheek, I turn the other, to show him that I have no desire to engage in *intemperate* struggle or war. If he hits me on the other, I "swing with the blow", so as not to get appreciably hurt; but I still keep my implied contract and do not start a fight (i.e., undue violence). But if he tries to hit me a third time I proceed to the best of my ability to react in a way that will terminate his undue activity. In a *One* sense, when he hits me, he hits himself; and if he is too callous or stupid to see and feel that, then *under such circumstances* I am morally obligated to show him: and I try to.

Analogously, if an unknown lady kiss me on one cheek, I should gently remove both cheeks in the same way as before, as a practical implication that such excessive love or pacifism would be unbalancing. However, pacifism that goes beyond mere talk is so rare, that never yet have I encountered such an altruistic lady.

That is the basic and moral principle of war, and of struggle in general. My observation is that (1) average men practice that sound principle pretty well; but that (2) intellectuals (even pacifists), politicians, and profiteers, often stupidly stir up war and other undue conflict for their own selfish *immediate* advantage;¹ and that (3) the aver-

¹The only general cause that is likely to lead a large, fairly sane nation into war, is what might be called "*population pressure*", or the effort of most of its people to maintain or increase their "standard of living" under growing difficulties due to increased population, immigration, interference of other nations with its travel and commerce (which practically amounts to increase of population), and (or) deterioration in climate (decreasing crops, which again amounts to population pressure). The people of such a nation require their nominal leaders to "do something" to maintain the standard of living. Most of "politics" consists of just that—usually requests for mild "protection". The easy course for the leaders is

age youth, in his natural search for extreme experience, is too easily persuaded that somebody hit him, figuratively, when such is not the fact.

If we caution our children against believing the dualists' bosh about conflict and struggle (including the pacifists' bunk of *zero* reaction), they won't be so enthusiastic about rushing off to war as they were in the world war—and then naturally returning with a severe grouch, and a contempt for us because we didn't caution them.

§4

Agnostics in those various ways tend to confuse us commonsense people, and to damage us considerably in spite of our practical rejection of dualism or agnosticism. Their approval of "Pilate" tends to corrupt politics. Their scientific moral irresponsibility, and recommended indifference, will debauch our children if unopposed.

Those agnostic leaders, with their additional materialism or polytheism, and blatantly published cynicism, got us into the damaging world war. And if the experience of Rome, with its augurs, is any guide, they will, if unchecked, lead us into similar downfall.

Last, their dualism, besides being intrinsically futile and spineless, perverts all morals by incorrectly teaching absolute warfare or conflict—is not only radical, but pessimistic.

To add insult to those injuries, our agnostic scientists inform us that they are not interested in such "unscientific" matters, and insolently ask us why we should get excited about them.

to lay the blame for population pressure on some "foreign devils", and to try to "protect" their people. They usually substantially take that selfish, short-sighted course—suggesting war in one way or another until actual war finally is worked up. The correct course obviously would be to try to remedy those various forms of population pressure *directly* and intelligently, instead of using the indirect method of a clumsy war—which does correct some of the over-pressure, but is nowadays almost sure to lower the standard of living below its previous condition. However, theoretically, there may be conditions in which ordinary war is the least of the evils—and war in such case is moral. But, as seen, probably the chief cause of war is the incompetent short-sightedness of our leaders.

So it seems that for our self-protection, and especially for the protection of our children, we are in duty bound to do a little more than merely reject agnosticism from our private, individual lives. Two practical actions will probably be effective:- (1) The agnostics are such, because they deny relationship. We should call their attention to their basic error—point out the simple truth, that the *related-Many* is the One. (2) If they ignore that simple correction, or decline to accept it (decline without giving us *convincing* proof that we are mistaken, if they think we are), then we should stop endowing them, and paying their salaries, especially in taxes. Every man who in any way turns his money over to agnostic professors is paying some for his own destruction, and for the destruction of his children.

I.e., we commonsense people need to preserve ourselves and our children by openly taking on leadership for a while—doing that simply by pointing out to our nominal leaders their basic errors, and asking them to drop them or else be dropped themselves.

We common people always actually lead, as we have seen and shall see further hereafter. Our nominal leaders say of all important questions, that the final decision must be left to future generations. That simply means that they themselves agree to wait until they have time to find out how the mass of people decide. (They won't *admit* that they mean it. The pity is that most haven't sense enough to know that they do.)

We simply have to tell our leaders how we judge fundamentals. For just a little while now, we need to express our view a bit to our nominal leaders, to put them on a sound base, and divert them from wrecking things. Then we can mostly go back to our chief business of practical living, and let the leaders (on a correct base which they will remember for a while) continue with their radical experiments and talk, and brilliant essays into special details of the *Many*.

The specific ways of calling the agnostics' and materialists' attention to their basic errors are simple, and easily applied:-

If you have children in college, write the president and ask him to inform you what basic doctrines are being taught your children. (Don't bother writing to subordinates—go direct to the president.) Remember that ordinarily intellectuals *verbally* deny that they are materialists and agnostics: those names are already unfashionable. So ask if his faculty teach orthodox mathematics, and exactness, and whether they think man can really *know* reality.

If they teach materialism and agnosticism, protest; and take what steps you can to stop or reduce their salaries; and try to withdraw your children largely from such danger. If the president tries to pass the buck to trustees or legislatures, write them, saying so.

If the president talks to you about academic freedom, and freedom of belief, tell him you agree in principle (see Chap. 17 §2), but that you, too, obviously are as free to believe what you like as he and his faculty are—and that you are also *directly* obligated as a parent to protect your children.

If he writes that his intentions are good, or writes some equivalent statement to the sweet effect that they are doing the best they know how and man can do no more, tell him that you have sense enough to know that, and are surprised to find he thinks you are so stupid as to need being told so. Then tell him that you hire a man not only for his good intentions, but for his *actual performance*, and that you were asking just how much of their job they *were* doing, as a means of judging whether they should keep the job.

Usually the president will try to write you a satisfactory reply—he can't hold his place unless he satisfies most of his students' parents. But if he is diplomatically evasive, as some will be, write him again, asking him to be more definite. Or, if you feel vaguely dissatisfied with his diplomatic cordiality, but don't readily see the specific faults in

it (and especially if he ventures to impute superior knowledge to himself or his faculty), send me the letter, and as long as my twenty-four hours a day holds out I shall be glad to show you the definite flaws in it. Having had much experience with scholarly superiorities and evasions, I have learned to diagnose them rapidly.

Also, you could simply turn this book over to your children, and tell them that you will back them in protecting themselves against their professors' errors. Your children may be shortly expelled. But that would be fine education or experience for them—a lot better than the futile, spineless agnosticism they are being infected with. Faculties won't dare expel many. But even if they did, there are many other schools that are no worse.

The next practical way is to try to get your minister to tell you privately his basic beliefs—whether he is a dualist or not. If he is, he necessarily acknowledges an irreconcilable contradiction in the universe, which he probably calls a basic mystery. In that case his "faith" truistically is a belief in what he doesn't really know—is really uncertainty and fundamental incompetence, regardless of whether he calls it "religion" or not.

If he is a dualist (and all official so-called Christian theology is dualistic; see Part III), then, if you want the church for ritual and sociability, perhaps the best thing to do would be to persuade the minister to confine himself to giving those, instead of ruining his own character more, and spoiling good ritual, by trying to preach religion.

That practical step must be made cautiously and patiently. For the only appreciable values the organized church now has, do lie (Chap. 34 §3) in its ritual, and in forming social relationships (*some* of which are often cynically called its "police value"). Those, although of high value, are mostly emotional matters that vary only slowly, and can't be safely tampered with except patiently and gradually.

According to the newspapers, a bishop recently stated publicly that his fellow bishops did not believe what they officially preached. We saw that a theological authority substantially stated the same thing in an encyclopedia article—and so far as I can find, it has stood without denial for fourteen years. Obviously, if our ministers continue to be public hypocrites, we have in them another college of augurs—and are headed for downfall. So the practical method just outlined is designed to relieve clergymen of the need of being intellectual evaders, without at the same time wrecking the church, and losing its high value.

Perhaps the reader may be able to invent a better way. The one I suggest of course has weaknesses. I know no reliable way to make the present generation of ministers into strong, intelligent men (see Part III).

The last practical way of pointing out to the agnostics that we common men require them to become sensible, is for us to request the editors we know to ask our various nominal leaders (mostly omitting clergymen) for their views in this matter, and then publish them.

Obviously, such information would be news—would be of importance and interest. So I judge that papers would be glad to do it. In the face of such popular interest, even the scientists would become genuinely interested in fundamentals, and even morals and God. The unescapable weight of facts that would then illuminate their ignorant minds would to some extent show them that materialism and agnosticism were wrong.

§5

I am quite aware that we average people are *already* taking just those steps. I merely looked around, and noticed what we were already doing effectively, and wrote it down. I do not fancy that this *book* will “save civilization” (as intellectuals pretentiously word it). It is already in process of being “saved”. I am simply telling how we *are*

doing it—how we *are*, with decent self-respect, keeping up our standards, instead of “quitting”; and how we *are* protecting our children, without going too far and coddling them.

Thus we average people will continue to lead the world sanely and soundly—to maintain decent standards of living or success.

From the logical point of view taken by this Part I, we have the practical rule not to confuse the One with the Many. Further, we have the sure knowledge that always there exists between the One and Many a reconciling, absolutely identifying relationship. In short, we *know*: we have *faith*, in the ancient sense of being absolutely sure.

We *know* that any specialist who asserts that he doesn't grasp the whole essential knowledge, and especially who says he isn't interested in all of such knowledge, is, consciously or unconsciously, densely ignorant, incompetent, and for practical purposes a charlatan and quack.

So this Part I, dealing with the expression of truth, or the trick of talking or “reasoning”, sums up into the simple rule:- do not confuse the three sorts of words: neglect or drop no sort.

The practical general conclusions as to reality itself, as discriminated from that *expression* of reality, have been seen to be the following two:-

(1) All One facts or principles are absolute—are absolutely known and sure. Commonsense people recognize that we know the One or principle, by agreeing that we have a conscience, or that we ought not to compromise principle. Even little children have a conscience, or One certainty.

(2) We can never know any finite or material fact exactly—for the simple reason that reality is the *related*-Many or the continuous-Many, in which, as a truism, there exists no unchanging *finite* part. So *all* our material expressions are approximations, guesses, judgments, opinions, measurements.

Of course, we do not *need* to be exact or absolute in our practical expression. It is entirely right and enjoyable that we should be "only approximate", as we are. But scientists have for so long dinned it into our ears that we are damned if we aren't exact, that the less steadfast among us average people are inclining to think that it is somehow shameful to be approximate about "facts".

The truth is, we need more accuracy in some things than we have now, and less in others. *Comparatively* speaking, we have achieved far too much accuracy about ancient Egypt, fossils, mathematical superficialities, and dogmas about electrons; and far too little about fundamentals, biology and human character, economics, morals, and other badly needed facts.

Wisdom consists of taking pains to get the needed *degree* of accuracy, and to judge by experience when we have it. Scientists, according to their flat claims of exactness, omit wisdom from science.

If we are to avoid the experience of Rome with its augurs, if we are to keep up our standards of happy, successful living, the final practical thing to do is to remember that our sound views of life are opposed to those of our augurs, and that we must resist taking those leaders seriously—especially the scientists.

CHAPTER XVI

SAFE USE OF NOMINAL LEADERS

§1

THE last chapter sums up the way the average man is leading or directing the race along its fairly sane, happy way. If our standards of living are to be continued, he must be such a director or leader of mankind, in addition to doing his daily, directly productive job.

Civilizations "fall" (1) when the average man, as a result of intimately connected over-population, increasing poorness of climate, war, and pestilence (see footnote, Chap. 15 §3), gets so over-burdened that he hasn't energy enough to lead (vote) intelligently, in addition to making his living; or (2) when he weakly takes his nominal leaders so seriously that he gets confused by their radicalisms or delusions. Usually those two causes work together in a vicious circle.

Obviously, the practical knowledge in the last chapter, and its application, is *of itself* extremely simple and easy. It amounts to having a conscience and acting on it—something achieved by well-bred children.

The difficulty we commonsense people have, is not in grasping that knowledge, or even in using it. The difficulty is the genuine one that often we may too completely use up our energy making a living. If we have some energy left, some "character" or moral courage, we can sanely see our job in its proper relations to other men's jobs, and can also go further and act on that temperate, broad view. In short, the difficulty is the practical difficulty of not becoming too specialized and narrow ourselves—the difficulty of keeping genuinely religious.

Most of our jobs are clearly "productive" (in the sense of being intended to meet obvious human needs). Such work keeps us fairly balanced by effectively calling our attention to relationships (to the "other fellow"—without whom we couldn't exist), and thus in sum to the One. And our climate gives us energy enough to grasp that One view rather well—although we usually give that religious part of our lives the less pretentious names, "recreation" and "domestic life".

Thus most of us common people surmount that chief difficulty—acquire a rather sound conscience or religious grasp, and a sense of responsibility. If our leaders don't confuse us too much, we support each other in those homely ways, thus directing the race soundly.

On the other hand, our intellectuals are not engaged in directly productive work, and hence do not have our protection against becoming narrow. They often become so specialized as actually to pride themselves on being so—just as a stupid man might boast that he had lost all but one toe. They so far lose our everyday sense of responsibility for keeping common things "going", that they actually sneer at us for remembering—calling us the rabble and "Main Street", and being contemptuous of our lack of appreciation of the importance of exact electrons.

In short, our leaders fall into the errors of specialization—are mostly a lot of *prima donnas*, highly irresponsible, childish, erratic, unbalanced, with uncontrolled "temperaments", and either an abnormal love of the limelight, or an abnormal actual (or hypocritical) fear of it.

A really first class specialist is of course extraordinarily self-controlled, industrious, and responsible *inside* his own field. But outside his specialty he is inclined to be irresponsible and erratic, in spite of good intentions to the contrary. However, there usually are only a few first class specialists alive at once. Nowadays our ablest men are in business, and in applied science, or industry, and have too much sense to "specialize". I am not sure there is alive

today a single first class mature physicist, mathematician, or astronomer, although there may be a dozen or two first class men in other branches of science.

The scientific specialists, such as Millikan, Eddington, Kellogg, Russell, that I have to quote simply because they are now prominent, or widely accepted as "authoritative", are about fifth rate men or worse, whose basic views will be quietly ignored in a few years. The increasing materialism and agnosticism of science increasingly makes its leaders poorer and poorer—and that is even more true of theologians.

I feel like apologizing to the reader for having apparently seriously quoted such scientific "authorities". But you will see that such apparent discourtesy to you was forced upon me. I had to show by actually quoting them, that our intellectuals were guilty of basic stupidities so nearly incredible that we usually overlook them.

It follows that not only must we be on our guard against becoming confused by the intellectuals, but further, we ourselves, if we wish to remain normal, must deliberately avoid unduly exerting ourselves in any effort to follow their vagaries. For obviously, if we use our energy trying to follow the specialists in all their Many measurements (most of which will be "out of date" or appreciably changed tomorrow, anyway), we won't have enough energy left for our daily job and general religion.

In brief, if we would be happy we must not take life too seriously. I.e., we must not overrate Many affairs, or over-burden ourselves with them, or "hurry" to accumulate or otherwise experience Many things. No quantitative matter is absolute. So obviously, it is merely truistic that we miss nothing of importance if we attend first to keeping in good humor and spirits (i.e., well-fed or nourished, un-fatigued, and energetic).

Our children get an unduly large or "serious" dose of quantitative knowledge and specialists' radicalism in school. It naturally makes them pessimistic, and then cynical.

And our various intellectuals are so exhausted by trying to "accept the universe" in detail, that they are literally sore-headed, and fancy that "war", or the "interests", or "capital", or "sex", or some other goblin, is after them and about to get them.

We don't have to "accept the universe". Having commonsense we comfortably and absolutely know we *are* the universe or God. We correctly *are* infinitely serious about the One, without effort.

§2

It follows, that for all serious workaday purposes this book ends here. The general conclusions of the last chapter (plus, of course, detailed knowledge of your own business and private affairs) are enough for our business of living, and working with our fellows along the ways of happiness and success.

But for those commonsense people who have a surplus of energy, the remainder of the book will be interesting and sometimes useful. Those will accept it, not as essential, but as chiefly entertainment or play where it falls in the line of their tastes.

For the remainder of the book will be an outline of the scientific, theological, and artistic specialties. As those for whom it is written have some surplus energy, it will not exhaust them and hence confuse them as to essentials. It will probably be useful as a guide, enabling each to judge surely what does give him happiness and success.

However, the rest of the book explicitly deals with what are usually considered mental affairs—with science, religion, and art—and only briefly with them. So it is possible that a given reader will find nothing of direct interest in it for him. He quite possibly will prefer his play or ritual to be eating, or fishing, or children, or golf. *He would be entirely right in such preference*, if his tastes are actually that way. But even in such a case, the rest of this

book, by definitely boring him, might be especially valuable as showing him precisely what he does like as ritual, and by showing him clearly that *his* ritual is *just as right and effective* as some other man's *directly* mental play.

Our authorities are in the habit of sneering at any but intellectual ritual—any but highbrow, “cultural” stuff. Hence, many commonsense men are inclined to be unduly apologetic if they prefer billiards or their family, to books or pictures. It will be of value to any man who is thus too humble, to be freed from his unwarranted sense of inferiority.

Intellectuals have so grossly overpraised and overvalued their specialties, that many commonsense men who normally would have a taste for some mental play have naturally been repelled even from intellectual matters they would find valuable in their jobs.

Intellectuals, more recklessly than demagogues and patent-medicine advertisers, have promised much and delivered little. They have been so glib and irresponsible as salesmen and advertisers of their wares, that they have nearly ruined the business—as is proved by the fact that already theologians get starvation pay, and philosophers and scientists but little more. We correctly pay high for responsibility in this world—for what we usually call character and competence. Irresponsible or orthodox “brains” *are* cheap.

As we go through the rest of this book, seeing an intelligible outline of knowledge, in which the specialties are given their reasonable values (which are comparatively low), possibly some who have been repelled by the intellectuals' reckless advertising, may discover that they are pleasantly interested in knowledge that is not overrated.

It is obvious, that with our sound foundation, we may go to any length we have strength and desire to go, in getting Many facts, both (1) as play or ritual, and (2) as a directly applicable, money-making part of our daily work. From either point of view every advance in knowledge is increased life and happiness, is adventure, and is pioneer-

ing—from the Many point of view. From the One point of view we of course know everything essential, and are absolutely content with what we have.

Usually we take our immediate neighbors as standards of achievement in our business and play. We 'compete' with them, trying to equal or excel them in our work and rituals. Obviously, we are not trying to "beat" them—as the dualistic or "struggle" idea has it. If we want to "beat" somebody, we could struggle with a child and vanquish him every time. Our 'competition' actually consists of learning Many facts from our neighbors, as a guide to more life or success for ourselves.

If we are fairly vigorous, usually we rather soon can equal our immediate neighbors at whatever particular thing *we* are most interested in—it may be in making a pie, buying wool, or raising a child. For they are likely to be mostly interested in something else, and not have a high standard of excellence in our particular interests. So we have to begin looking beyond our immediate neighborhood for some one else to compete with. We look for what we call an authority, or leader, or champion. Usually the only way we can find such further standards of excellence, or "knowledge", is in some formal shape—in newspapers and books, or in the movies, etc.

It all sums up, that intellectuals consider "knowledge" to be primarily and often solely; a collection of Many facts—"information". But knowledge to us means primarily a standard of excellence; means success, happiness, fullness of life. It means primarily a grasp of the One; and only secondarily includes the Many information which makes that possible excellence attainable, and mutually measurable.

§3

From such a point of view, normal people are always seeking more 'knowledge', and are looking for authorities

or heroes—for the champions of the world, and the ultimate Champion who is God.

We use those champions as aids or guides to broaden our own lives towards a more conscious infinity. Specifically, and in less high-flown terms, we learn of them.

But the champion has had to work so intensely and narrowly to become a champion, that usually he is not, by our normal standards, any longer a decent human being. Extremely few men have the strength and endurance to become champions without becoming freaks—without becoming more or less unbalanced or mad in other lines.

We want leaders; but by long racial experience we are instinctively and correctly suspicious of them. Consequently, we gratefully accept their guidance, but try not to accept a bit of it which does not agree with our mass of well-tested One knowledge. The race thus increases its store of skill and sound knowledge extremely slowly.

No other way would be safe. For much the greater part of the stuff the authorities think they “know” is really Many knowledge that is always changing and going somewhat out of date. The rest of the stuff they think they know, is either dangerous pseudo principles (such as those of our scientists), or else is simply sound One knowledge we have had for ages. So we are right, as well as safe, in learning slowly.

Knowing thus definitely the dangers, and the uses, of leaders, the rest of the book, giving a simple outline of what they have done, will be safe for us *if* we verify it all from our own experience. For, being protected against taking those experts too seriously, we won't fall into their idolatries, and can use their special knowledge.

People are bored or restless, and crave excitement, only when they have weakened themselves by excess of effort to achieve standards or goals which don't suit them, and haven't found their right ways to expand out to an ecstatic success of life. Boredom, or monotony, or dullness, or satiety, or being fed-up, or whatever it is preferred to call

such *taedium vitae*, is hell. It is the inevitable and just punishment of materialism, or idolatrously taking some narrow Many too exaggeratedly.

But if we have a sound basic knowledge, we can profit even from learning the measures of electrons. Indeed, such technical knowledge will come in handy in giving us easily available power, and better materials. But power for the sake of power—as when we boast of having quantities of it—is idolatry and hell. Art for art's sake, or truth for truth's sake, or Culture, or Science, is the experts' "pure" or materialistic science, and is idolatrous weariness of the flesh, or hell.

§4

In short, as we now see from several points of view, if we use our nominal leaders properly, we do not "escape from life", but find life. We gain more abundant life, and like it—are successful.

Our experts fancy they help us to escape from life—especially to escape from ourselves. Theologians officially abandon this life as a wholesale failure, and urge us to use our energy getting another. Philosophers, under all their clouds of talk, basically try to give us soothing forgetfulness and oblivion. Essentially, their talk *is* dope. To be "philosophical" means *practically* that we admit we are inevitably poor failures, but will bear up nobly.

Science is two-faced about escaping from life. It first, by its mathematical dogma (that only Many things are real), escapes from life by verbally denying its reality or importance. That materialistic escape *logically* amounts to the theological procedure; except the scientists go further, and substantially say they aren't interested in reality—are interested only in the Many. But then, second, scientists substantially agree that, after all, we do experience life, and that it isn't satisfactory, and that therefore they will give us "progress" in the shape of greater *quantities* of things—more materials.

So as that second thought, scientists escape from life by *progressing* or “evoluting” out of it—getting bigger, or acquiring more property, by the aid of the latest scientific discoveries. They overlook the simple fact that according to that materialistic “principle” of progress, truistically we *never* reach a satisfactory, happy life; but must always be “escaping”, or progressing, towards it. Theologians’ theory of a perfect future life after our life is in some ways more rational than the scientific promised land that never arrives.

Also, scientists overlook the fact that their progressive escape conflicts with their other general doctrine (named “increase of entropy”) :- that the energy potential does *not* go up or “progress”, but forever runs down. Such contradictory bosh is practically worse than any theology.

The obvious truth is, that in a *One* sense life does not change, but is happy and successful simply by being or existing; and that in a *Many* sense life is always changing, and is successful or “progressive” in the degree in which it intensifies consciousness or conscience. We don’t want to escape life.

So we must have a goal or ideal precisely opposite to the one recommended by our leaders. For they really advise us to shirk life and responsibility—to be “quitters”.

With a sound purpose or aim, we can safely use our leaders’ championship performances. For then the most “exciting” and ecstatic excursion far out on some special infinite regress won’t be a cowardly, futile “escape” from life, but will consciously be an intensification and more energetic and wise acceptance of life and its consequent duties.

CHAPTER XVII

SUMMARY OF LANGUAGE OR LOGIC

§1

ALTHOUGH this Part I is explicitly logic—deals chiefly with expression of knowledge, rather than knowledge itself,—it nevertheless as a whole *implies* a basically important bit of knowledge. For it shows *how* to think. It shows *how* the Many facts (which make up *what* to think) sum into the One that all normal people know.

That “how” consists of using trinity logic *consciously*. The “how” is:- avoid mixing the three kinds of words; or, notice *relationship* and relationship words, and thus *know* the One. Or, more formally expressed, the “how”, or method, of thinking consists of *explicitly using all three sorts of words consistently*.

As a truism, that “how” is the very beginning of Many knowledge—of practically *educating*, or leading out, or expanding, our selves.

There is only one “how”—only one sound principle of thinking, or start of education. But of course there can be an endless number of ways of *stating* that how. If you don’t like my formula, there are others essentially just as good. The way I write it here seems to me merely to be the most intelligible way at present.

Our experts usually agree that they ought to teach us how to think—that such knowledge is the start of education. But it has become evident in the preceding chapters that they don’t know how themselves, and naturally can’t explicitly teach how.

Of course, numerous teachers have a commonsense, *intuitive* knowledge of how, and indirectly (and from a professional point of view, accidentally) do teach how to

think—or at least avoid spoiling the students' own intuitive knowledge of how to think. Such teachers are said to have "high character"—which shows that the intellectuals themselves don't believe in their explicit doctrines, and tacitly admit all this.

Therefore, from a strictly consistent point of view, our whole educational system is unsound. For it can, and does, teach the very beginning or foundation of education *only accidentally*—when it teaches it at all.

Even the intuitively sound teachers of high character, in nearly every case *explicitly* teach wrong basic doctrines (agnosticism and materialism), and leave it to chance whether the student believes what they *say*, or believes what they contradictorily imply by their usual *acts*. Most of us have sense enough to judge a person chiefly by his acts. If we didn't, a large proportion of our intellectuals would be in danger of hanging, and this would be as idiotic a world as they say it is. But sometimes our inexperienced children believe the teachers' *words*. So we have to warn our children against believing their teachers.

All that raises acutely the question of academic freedom, and of freedom of thought, religion, and speech in general. We shall slightly digress to consider that question in the next Section. The discussion will then serve to make clear the principles of education, which are the summary of Part I.

§2

In a One sense, each of us is a related or absolutely "inseparable" part of the One, so that in an ultimate, exact sense each is the universe or God, or is infinite. In the One sense, in principle or essentially, we are all equal. We are all infinite. Each one is God, and thus *absolutely equal* to, or identical with, every other person or thing. In short, there is no such thing as *essential* superiority, or aristocracy, or rank, or privilege.

In a Many or quantitative sense, we may each be measured in an indefinite number of ways. No people have ever agreed, or ever can agree, that some given way of measuring is the *essential* way; for there is no essential way, but an indefinite number of ways. But even if we did agree to measure ourselves *in some given way* as being the most important way, still we are each always changing variously because of our variously different environment, and are *not* equal in that given Many way for any finite time; and a superiority by such measure at one time truistically still can not mean an *essential* or continuing superiority. (Our Constitution is based on the One principle of this and the last paragraph.)

So obviously, we are all absolutely free in every respect *in a One sense*. For there *is* only one One reality, and we each are it, so that ultimately we don't want to be, or do, anything else.

If we even "conceived" anything else, then *as a truism* we should be absolutely related to *it*, and it would therefore be part of us or of the One. The very "conception" of "being something else", would absolutely merge into being what we are. Or, put into ordinary language, we do not even conceive of being anything but the One which we are; hence we are absolutely free in being it.¹

Thus in an ultimate sense each of us *is* free in thought, and religion, and speech. For if we state or "think" any-

¹ If you like, you could also properly say that you are absolutely *unfree* in a One sense—are a One slave,—because you can't be anything else, but are "forced" to be the One or God. It would be an unusual verbalism to object to being God, or to say that God is a slave or not free. *But*, if you use that quite correct *form of language*, it would further become necessary (in order to be consistent or honest in such a form), to change most of our everyday verbalisms. For our usual speech implies and names a One "freedom". Such a capsized language, of verbal One 'slavery', would then of course *mean* just what our ordinary language means. For a while it would be confusing to describe God as a slave, good as being bad, and to reverse *all other* words similarly. It would be the same as adding "not" to every word—useless from a *practical* point of view, but not an *essential* change, and hence quite sound logically. Every once in a while some new religious sect does vaguely discover the practical fact that language may be capsized without essential change—and a new verbal quarrel arises over some few capsized words. If the sect had sense enough to go ahead and consistently capsize *all* words, then of course it would become evident that no real change has occurred—that the sect or schism depends on mere verbal changes.

thing that isn't true, such a statement simply means nothing *of itself*, but *indicates* that we are partly dead and unconscious—or, in ordinary words, are in that matter “wrong”, sinners, or fools. (See Chap. 29 for details.)

From a *Many*, or individually finite, point of view, we are unfree, or “determined”—ruled by unbreakable laws, or held in unbreakable relationship. I.e., all *Many* things or facts are related together, so that any *Many* fact or thing is absolutely related to, or determined by, all the rest. Nobody can really enslave our *Many* speech, as it *of itself* can't be free, but *absolutely must* conform to a universal relationship—or else be senseless, and (in a strict sense) non-existent.

So *practically*, or from a *Many* point of view, “freedom” can never *absolutely* exist. Thus the practical problem becomes one, not of *essential* liberty, but one of mutual agreements, or *contracts*—of rights and duties, of payments and debts or obligations, of that temperate or fair balancing between acting-reacting men and things which is named *justice*. This whole book, from a practical point of view, deals with a balancing of action-reaction, liberty, or justice. At this point we are considering academic justice or freedom specifically.

Therefore, *in principle* or in a *One* sense, academic freedom simply exists. The *practical* point about it is this:—Teachers are paid by us to teach the truth, and not to teach foolishness. As a truism, they are paid for *something*—and foolishness or mistaken doctrine is strictly nothing, as we just saw. Hence, the burden of proving that they teach truth is upon the teachers. They agree, or contract, to teach it—to give *something* for their pay;—and truistically have voluntarily, or of their own desire or “freedom”, agreed to teach truth. If they can't *convince us*, who pay them, that they do teach the truth, they ought not to demand “academic freedom”, as that practically amounts to their demanding something for nothing, and also to breaking their contract or word. They should recognize the

obvious fact that they have taken something (pay), for giving us what, in *our* view, is nothing; and they should therefore of their own volition (or freedom) offer to resign.

As the burden of proof is thus truistically on them, they ought to *welcome* our questioning their doctrine—ought to *welcome* having our children even attack it. For that gives them a better opportunity to earn their pay. It shows our interest in their doctrine, and willingness to hear it. But the sad fact is, that they usually resent such questions or attacks—which resentment of itself is strong evidence that they are not able or competent to give truth in return for their pay.

That same “burden of proof” is the practical solution of all other aspects of “freedom”. The able, honest, respectable, valuable, high-pay man willingly takes on himself the burden of proof—*eagerly* takes the responsibility of showing that he is right, of *producing desired results*. The incompetent, reckless, half-baked man will ignore, or “side-step”, responsibility as long as he can—and then begins to whine that he isn’t “free”, and to insist on freedom.

Furthermore, the able man acts generously, and *for a reasonable time* gives the incompetent man a “chance”—pays him in advance, in the hope that he will make good. We commonsense people have for a long time patiently acted thus generously, paying teachers in advance, in the hope that they will finally learn elementary truth and teach it. I now show facts indicating that our patience and generosity is being abused, so that further credit is unwise:-

A “liberal” college president, Meiklejohn, in the September, 1923, *Century* (and I am told later in a book, *Freedom and the College*), asserts that teachers are *not* responsible for their teaching, either to (1) students, or (2) parents, (3) church, or to (4) donors of money, (5) the public, (6) graduates, (7) trustees, or to (8) the state. He solemnly declares that they are responsible in lesser degree to their fellow scholars, but chiefly to “truth”. Since then I have watched current literature to see if any teacher

would repudiate such a sweeping, public-be-damned view of academic freedom. So far I have seen no single hint of disagreement by any intellectual.

It thus is somewhat evident that *officially* our educational authorities are more concerned over getting their "rights", or pay, or "freedom", than they are over meeting their contracts or obligations. Officially they are selfish—hold their students, parents, and so forth, to be zero or negligible. But of course there are many teachers who as individual human beings are beautifully balanced, or high in character. They are misrepresented by their spokesmen.

Both materialism and dualism deny or ignore relationship, or duty and obligation to fellow men—or, as a truism, are unbalancedly selfish doctrines. And our teachers officially hold such selfish doctrines—usually disguised under the One or holy name, "academic freedom".

§3

So, in addition to omitting the beginning, or "how", of education, our authorities teach basic irresponsibility, or unbalanced selfishness. Our civilization is poisoned at its source by such official dualism.

Fortunately, we, and numerous teachers, and our innately normal children, all tend to resist that poison.

But even though we manage to survive the poison, just as the race survived unprevented typhoid and plague, it would be reasonable to try to stop exposing our children to an educational system which not only omits teaching how to think, or the first "half" of education, but even worse, officially subtly infects them with the poison of undue selfishness—of grabbing academic freedom or "rights" or Many liberty, and neglecting the obligations incurred.

That is the One aspect of education. Teachers do much vague talking about the need in education of ideals, morals, religion, or the spirit of service. They thus in an indefinite, ineffectual way agree that they are trying to get that One aspect.

Now that we have given them the One aspect in our common, usable form, those teachers who have been meaning what they say will accept it—slowly, as they have time to adjust their disturbed emotions.

The teachers who didn't mean all that sweet, and apparently safe, idealistic talk, but consider education to be a dealing out of materialistic information, and a salaried job having a little surviving prestige, will ignore that practical One aspect as long as they dare—and will then scoff at it as much as they further dare. Your local editors, perhaps helped by the women's clubs, will usually be glad to obtain and publish for your guidance the views of your local teachers.

Thus definite observation of language shows us, as our first bit of practical knowledge, just what to add to our educational system to make it sound in general principle:—We are to add the One aspect explicitly—add instruction in how to think, supplemented and made genuine by the example of teachers who are not grabbing "freedom", but who, knowing how to think themselves, are glad to balance duties with privileges—glad to be "square" with pupils first, and then with everybody else.

In short, we add genuine ideals or essential religion to our educational system—which is just what we have been hearing our teachers say it lacks. We do not need to add any of the various theological rituals. Those would merely cause quarrels, as they are matters of taste, in which people always will differ. If we add essential religion, taught by balanced teachers, rituals will take care of themselves elsewhere.

§4

The other, or Many, aspect of education takes in *what* to think.

A "professional" or vocational school is chiefly occupied with technical information—with what to think. But

obviously, even a vocational school can give no sound instruction unless the teachers and students know, and use, the One aspect. Similarly, in the informal and continuing education of living, our jobs primarily require Many information and skill. But that can be obtained only on a foundation of a sound grasp of the One.

The Many aspect, or the "what" half, of education deals with the infinite possible details; and will never be complete or perfect; and will always be changing; and must be different for different sorts of people, according to their different environments and abilities.

Possibly about the only "subject", or considerable "branch" of the infinite Many, that should be acquired by all normal individuals is the subject of language. "Language" consists primarily of "reading" and "writing". A little more formally, language is logic, of which "mathematics" is the most general sort. So students who go beyond reading and writing (as all but the feeble minded should), further would take arithmetic.

Thus, on the "what" side of education, about all that can be generally concluded is, that we should begin with the three R's. The fact that we do is good evidence that the foregoing outline of trinity logic is sound—for it agrees with what we common people already know.

§5

The outline of language given in this Part obviously may be expanded indefinitely, into Many details or "what" information.

That expansion into Many details is sound mathematics or literature—being mathematics when primary attention is paid to the *form* of words or to the language structure, and being the "highest" sort of literature, called poetry, when primary attention is paid to the *substance* or "truth" expressed by the words. Of course, both mathematics and poetry should pay enough attention to both form and substance to give a readily intelligible meaning or One.

Incidentally, because poetry is the highest in substance, it truistically should secondarily have the most intelligible form possible to give it—and that includes agreeable rhythm, and suitable simplicity or commonness.

Possibly just at present, when most of our intellectual leaders have failed, the most important “what”, or expansion of logic, is a detailed statement of how we “duplicate” the minimum trinity structure into languages of 5, 7, 9... sorts of words (Chaps. 6, 7).

If we remember the following three general points about such expanded logics, all of us who are not professional experts will get along better than if we tried to burden ourselves with details:-

(1) Everybody, in our everyday language, uses time and space as a vaguely “higher” language. Even more definitely than that, we practically do duplicate languages by using “factors” (Chap. 6 §1). I.e., we (1) combine a relationship meaning and a Many meaning into a *single* word, named an intensive factor, or a potential, or a “multiplier”, or “variable”, such as voltage, pressure, force of gravity, public opinion, mother love, weight; and we (2) combine mostly a Many meaning, with a *slight implication* of relationship meaning, into a *single* word, named the extensive factor, or quantitative factor, or “multiplicand”, or “variable”, such as amperage, mass, public.

It is sound and intelligible to say *Amperes* \times *Volts*, or *A certain size piston* \times *The pressure on it*, even though superficially it does seem that we are trying to say *Cows* \times *Horses*, or use an essential dualism.

Cows \times *Horses* is a real irreconcilable, and hence senseless, dualism, thus:- The relationship word “ \times ”, or “multiplied by”, *explicitly* means:- the subject (or Many thing) adds *itself* to *itself* a certain *number* of times. Therefore, when the “itself” is *explicitly* named as two *different* things, cows and horses, then “itself” is said *not* to be itself, and the expression *Cows* \times *Horses* is *explicitly* a dualism or contradiction, or is meaningless.

Similarly, we can't really *add* "cows" and "horses". But we *can mean* to add, *not* nominally and formally different things, but the same sort of things—say Many things, or "animals":- $2 \text{ cows} + 3 \text{ horses} = 5 \text{ animals, or } 5 \text{ Many things.}$

Therefore, in all cases of sound factors, which are duplications of language forms but not real dualisms, the "intensive" factor is a *combination* of a relationship word *and* a Many word. Thus, by "weight" we mean a *Many* body explicitly said to be related to the earth (or other Many body) by the *relationship* gravity. In "public opinion" we have an implied lot of men, explicitly said to hold a common relationship, or "opinion", or "force", or "love". Some slight implication of relationship also inheres in the "extensive" factor, which mostly names a Many part. So truistically, the two factors, *used together*, are soundly equivalent to the *Related-Many*, and correctly equal the One. The mathematicians call the *two together* a "function"—but don't know that they do.

As is evident from that, a definite and explicit discussion of the *details* of such "factors", as we ordinarily use them, would make a long, complicated treatise. It would be a combination of (1) the theory of the calculus, and (2) a statement of all the technical uses of time and space, and (3) a dictionary of intensive and corresponding extensive factors, amounting to the elements of science in *every* branch. (I give such elements in *Universe*.) It is shown in Chapter 19 §1 how orthodox science *begins* such science in terms of physics—but failing to understand it, begins it wrong.

For our everyday purposes we do not need such detailed knowledge. If we remember to reduce (i.e., simplify, or "analyze") factors to our three sorts of words, and then apply the practical rules of the last chapter, we shall avoid such puzzles. And if we do not know what a factor is and really means, then obviously we shouldn't use it, and should insist that those who talk to us reduce their factors to trinity form.

The truth is that orthodox scientists don't know nearly so well as we commonsense people do, what factors are. Mathematicians are totally wrong on the subject, especially about "functions", or the use of both factors together. Some abler mathematicians admit uncertainty about functions. Scientists usually deny relationship, and hence get sadly befuddled over factors. We see how, in considering Newton's laws (Chap. 18).

Hence, we have the following practical rule for handling "higher" languages, or factors, and especially the "functions" and other verbal complexes so dear to the higher-talker and forward-looker:- don't take any stock in such bunk, so long as the intellectuals don't reduce it to simple trinity language.

(2) The same practical rule obviously applies to the Einstein theory, to non-Euclidian spaces and geometries, to most of the new systems of mathematics and logistics, and to most of orthodox mathematical foundations, especially the theories of number and function.

Of course, we should further remember that the Einstein theory is doing fine work by breaking up the materialism of science—doing it by unintentionally reducing orthodox science to absurdity. All these queer vagaries of modern science, which we should remember are *strictly* bosh, are, in spite of that, useful mistakes which somebody is nearly sure to make in getting at truth. We can't help sympathizing with their poor makers, even while using them as examples of how not to do it.

(3) The last general point we need to remember about the detailed expansion of logic is that in the whole truth, *The related-Many = The One*, the *related-Many* is as real or true as the One. *Sound science is just as useful and true as religion.*

But, the Many is absolutely infinite, so that any *exact* or real Many part is zero in size—or is, in ordinary terms, absolutely indeterminate in size, or quantitatively ineffable.

Or, a materialistic science is quite true *if* it is a sound science in which the Many things are absolutely indetermi-

nate, or zero in size—if it is explicitly an *infinite* pluralism. Such a sound science has no exact finite Many things or quantities in it, and no constants.

If orthodox science keeps on in its present course towards infinite pluralism, then when it finally succeeds in dropping its present nonsensical exactness or materialism, and adopting that sound infinite pluralism, or correct inexact or absolutely indeterminate 'materialism', the result truistically will be that our whole language will be greatly changed. Numerous words will have their *implications* reversed. E.g., what we now properly condemn as "materialism" or exactness, will reverse into inexactness that is a 'materialism'—if we wish to call it such, instead of calling it immaterial as we do now.

In short, science is now headed for what is commonly known as the Oriental point of view—which *can* be sound, but which is verbally opposite our usual Occidental view. My *opinion* is that such a point of view is impracticable for us Occidentals (see next Section).

As a working rule, we should at present firmly decline to give any credit to, or (if we are too busy) even bother to listen to any orthodox materialism. The burden of proof is on the intellectuals, even though in speaking for common men in this book I am accepting the burden of proving that *we* are right. That is pure generosity to intellectuals. They haven't earned it, and hence are even more deeply obligated to prove their dogmas—or else stop asserting them, except at their own expense.

Under such circumstances, any intellectual who asserts that he knows something that can't be intelligibly and convincingly stated in our common language, is offensively insolent.

§6

The only other detail of logic that seems to me of enough importance to summarize here, is that it is always possible

to make a sound "reverse", or "backwards", language.

That follows directly from the fact that both zero and infinity are One words, and are nominally the "reverse" of each other. So we can *begin* a sound language by calling the universe or God either zero, or infinity, just as we like.

And that follows *indirectly* from the fact that language is definitely a structure or a machine—is a finite invention or arbitrary Many thing. Any structure can be built, or described, or traversed, in any given direction; then we can turn around and traverse it just as "correctly" in the opposite direction. Or, expressed more conventionally, any *complete* machine may be reversed, and will work in the reverse direction.

Or, sound logic is circular. If we keep on, we always reach the same conclusion, or sum, or One:— the whole circle. So from those various points of view we see that language not only is reversible; but that if we do reverse it, we get identically the same *meaning* or sum, although in words differing *nominally*, as *zero* differs from *infinity*.

Commonsense men have intuitively recognized for ages that words, after all, were not the reality; so that the verbal reverse of every truth was somehow also true.

As a matter of historical fact, Orientals tend to name their reality zero. They incline to sum things up as Nirvana, or a release from (Many) consciousness into a zero One. Occidentals tend to name their reality infinity—to sum reality as unending consciousness.

However, both Orientals and Occidentals, when they consider the freedom of the will (which amounts to asking, What am I?), tend to *mix* zero and infinity inextricably, as being equivalent. Both tend to take *various* attitudes, in some of which their will or personality is nothing, and humble, and "predestined"; and in others, is everything, or of infinite importance, value, and dignity, and "free" (Chap. 29).

Ordinarily we Occidentals call the One, or God, or universe, infinite; and name him good; consider him as being

dynamic or in "motion", or "personal", or alive; as being rational, or reasonable, or conscious; and related together, or *loving*, or having gravity force; and as being "something", or having "substance"; and as existing, or "being".

If you meditate a bit on those various names or "attributes" of God or the universe, you will nearly surely agree, that (1) as a fact we commonsense Occidentals do talk of, or "take", our universe that way; and that (2) those words are all invented by us as being self-consistent *in implication*—as ultimately meaning "*is*", or "infinity".

So if we *consistently* say that God or the universe is static or dead or impersonal, or is unconscious or "blind law", or is Nirvana, or is absence of action-reaction, or (in short) is non-Being or zero, we have simply, in practical effect, added the syllable "*not*" to all our ordinary sentences—we have "reversed" language *nominally*. But obviously, the "not" isn't any more *real* of itself than any other word. If we add precisely the same syllable to every sentence, obviously all our sentences will still mean the same—will still point to the same One.

We often do reverse language *unintentionally* in spots; and then of course sooner or later become verbally self-contradictory, and bewildered. Indeed, many people claim to talk our usual Occidental, infinite-One language, but at the same time habitually assert that the universe or God is static, is unconscious blind law, impersonal, dead, or in one way or another "zero". In fact, so-called Christian theologians officially hold the dualism that God created the universe and has been finished with it, or separate from it, ever since. That obviously amounts to saying that God is absolutely stand-pat, static, or essentially dead, and that the universe is impersonal, unconscious, or essentially zero or evil.

Further, philosophers and scientists so habitually shift unintentionally from a nominally zero One, to a nominally infinite One, that often it is practically impossible to judge which direction of language they *are* talking—and *they* don't even know that such confusion can occur.

Two important practical conclusions obviously follow from the fact that language can soundly be nominally reversed:-

(1) We should recognize that a verbal view, or religion, which is the reverse of ours (such as the Oriental view of the One tends to be), is sound. It is a variation in taste, in invention, in words, and is correct even though it happens not to be agreeable to our taste.

Of course, the *whole* of such Oriental logics *ought* to be consistently reversed; and as a matter of historical fact, are not. Oriental intellectuals are no better than ours, being also confused. So far as I can judge such extremely dim matters, it seems to be the fact that about the dawn of history in Asia the scholars we should nowadays call scientists got the ascendancy, and introduced a somewhat defective infinite pluralism into practical use—a form opposite our daily usage.

Occidentals then, or later, perhaps largely because of the spur of a more “stimulating” climate, rejected such Asiatic monotonous scientific language as being psychologically objectionable to their taste. Hence, modern science, even if it succeeds in technically reaching a sound infinite pluralism (Chap. 14 §5), would most probably *not* lead us into a new and better world, but would in all directly human aspects lead us back into a state of mind existing eight thousand years ago in Asia.

In short, modern science tends to infinite pluralism; *and such a language is not in harmony with our climate*. Also, history apparently shows that such *basic* science was done much better thousands of years ago than our scientists now do it. Of course our scientists have measured more facts.

So there is nothing new and wonderful about modern science. The same essential thing, in a far more correct *general* shape, largely died of sheer fatty degeneration many centuries ago. Even if orthodox basic science (a pluralism) be stated in flawless form or logic (as can be done, although the scientists don't do it), I think it still

would die of the same excess of verbal fat—of excess of attention to details. One of the pet boasts of scientists now, is that they know such a fearful lot of information that no one man can handle it. That boast amounts to an admission that already such ancient fatty degeneration is catching them. For the actual truth is that no information is correct, or useful, or anything but a detriment, *except* as it is combined definitely into the extremely easily handled One. Scientists are smugly ignorant of all such history and commonsense.

(2) We should insist that our intellectuals adhere consistently to our usual infinity conventions whenever they claim to use *our* everyday language—and quit blindly mixing the zero form with the infinity form.

Our infinity convention has several psychological advantages—it being the language of optimism, cheerfulness, health, and courage. The zero usage tends to pessimism, weariness, dreary garrulity, statistics and tables, and discouraged acquiescence and surrender—something like the discouraged and decadent literature of the insane Dostoievsky, and of our wailing and abnormally brilliant agnostic pessimists who call themselves realists (i.e., scientific).

Incidentally, the scientist Havelock Ellis says that Dostoievsky is “the most profoundly disintegrated in nervous organization of all great writers”; and Ellis further in the same book (*Dance of Life*) says that Einstein declares that “Dostoievsky gives me more than any scientist, more than Gauss [the mathematician]”. It thus appears that scientists consider an admittedly insane man “great”; and that Einstein goes to that insane man for his highest inspiration. Apparently they wish us, and our children, also to be led and inspired by lunatics. Printable words would fail to express my opinion of such scientific ideals.

Of course, our agreement that the One shall be called infinite has its disadvantages, the chief of which probably is that it tempts us to exaggerate, or become radical. If we yield to that temptation, the natural result is that our nerves

become over-stimulated, "jazzed up", and hence weak and futile.

But on the whole, as the infinity language is the sort we mostly use, we had better keep it for practical purposes until such time as the intellectuals have experimented (*on themselves*) with the zero language. So long as the leading formulators of the zero language or infinite pluralism, go to lunatics for their inspiration, it is wiser not to listen to them seriously.

§7

This Part therefore sums up, (1) that sound language is simple and easily understandable in principle, and (2) that a definite knowledge of language is in practice a knowledge of how to think—of how to solve all essential problems.

A highly important practical solution we got, which is denied by science, is this:- no quantitative or "scientific" problem is ever *exactly* or absolutely "soluble" except by *actually living* it; or, quantitative problems, in the nature of things, can be only *approximately* measured and predicted and *expressed*.

But language or logic from a Many or practical point of view is truistically a science—a "branch" of science. The average scientist doesn't admit that it is such—in spite of the fact that things called "words" *observably* do exist, are used by scientists, and ought to be noticed by them. As a result of their blindness to words or logic, and official lack of scientific interest in them, our intellectuals omit teaching how to think, being ignorant of that fundamental "how".

PART II

FUNDAMENTALS OF SCIENCE

CHAPTER XVIII

BASIC SCIENCE

§1

SOUND science deals with, and is, (1) the experiencing or observing, *and* (2) the *expressing*, of the universe or One considered as being divided into parts, or as being the Many.

In that genuine, intelligible sense, science is also religion (in our usual sense of religion). For that definition of science is obviously one way of saying *The related-Many = The One*.

The only definite difference commonsense men make between science and religion, is that science pays attention primarily or *more emphatically* to the Many, and religion to the One; although each finally includes the other.

Also, we common people *express*, or state, both. We do not consider science to be science unless it is expressed intelligibly and self-consistently—and similarly with religion. Therefore, we make *both* include logic (sometimes called “philosophy”: but called “mathematics” by scientists), which pays primary attention to relationship.

The orthodox definition of science is:- “ordered knowledge of natural phenomena and of the relations between them” (*Ency. Brit.*, Art. *Science*). That definition obviously implies that there are *supernatural* phenomena, or some other phenomena, that are essentially not “natural”—agrees that orthodox science is dualistic. Indeed, the same Article that begins with that definition, later on (1) explicitly asserts that science has nothing to do with matters which are not “natural” (i.e., has nothing to do with “meta-

physics" and, by implication, with religion); and also (2) in glaring effect says that "science" actually has no knowledge of, or concern with, relations (which of course contradicts the definition, and implies materialism and agnosticism). The same definition also implies other errors and omissions of orthodox science. But it would be unprofitable to spend time noting them. For already this one paragraph gives ample evidence that orthodox science is basically about as self-consistent and credible as *Alice in Wonderland* and Dostoevsky's diseased idea of life.

§2

We saw in Part I that the total truth is:- *The related-Many = The One*. If we now consider that truth (i.e., observe the universe or God) primarily as the Many, we have science. Let us do so.

Men for ages did observe the Many. Their lives and happiness depended upon their seeing it pretty clearly and correctly. Finally Newton condensed their statements of what they agreed they saw or didn't see, into what we call "his" three laws of motion (although men had been working on them for centuries before him).

After two centuries more of careful observation, it has appeared that Newton, although roughly correct in his laws, was vague in expressing them. He didn't definitely know sound logic, and hence his language is shaky—being *implicitly* materialistic, so that he got his *law of gravity* definitely *wrong in principle*. Newton fails to state in his three laws that mass or "matter" *is* motion (of whatever it is that "moves")—although he implies it, and seems to state it in his less formal writings.

That implication of Newton's three laws (that mass varies with velocity, or motion) was definitely observed and stated thirty or forty years ago. Then Einstein came along in this century, and made a grossly exaggerated statement of that implication—so exaggerated, indeed, that

relativitists hold that it contradicts Newton's laws, or is a "revolution" in science. However, Einstein is practically a dualist, and has not really corrected Newton's omission or error—but has so much confused the matter that even scientists are being forced to think about it.

Therefore, if we directly observe for ourselves, being somewhat guided by Newton's summing up of what previous observers had noticed, we shall formulate sound fundamental science for ourselves, and can let the scientists follow along as soon as they feel strong enough to think a little. The only trick in the whole affair is to keep our One words discriminated from Many words—Newton being vague at that.

Newton's first law of motion is:- every body continues in its state of rest or of uniform motion in a straight line, unless it be compelled by impressed force to change that state. The law is abbreviated to this:- matter has inertia.

Obviously, that law is an *implicit* assertion of the One. It is a sort of "negative" statement:- that any body which is *not* in a Many chain of cause-effect or action-reaction, *would be* absolute, or unchanging, or a One. It *fails* to say explicitly that we do observe or know one such body, and only one such:- the universe or One or God.

Further, as of course there exists *no* Many body which is *not* acted upon by an external force (no Many body which has no relationship), this law can not be proved by what the scientists call "experiment"—a point on which they all agree, so far as I can find. The law is merely Newton's vague, *negative* way of beginning to state our trinity *logic*. Its proof requires *observation* of *words*—and scientists won't observe *words*.

In short, the first law of motion is not "experimental" Many science, but is a vague statement of verbal agreement to name a One or the "absolute", which is quite sound if accepted for what it is and then intelligibly stated. But orthodox scientists, especially the relativitists, deny that there is an "absolute". They fail to understand this law, and so *in practical effect reject it*.

Newton's second law of motion substantially is:- change of quantity of motion [i.e., change of what we call momentum] is proportional to the impressed force during the time it acts, and takes place in the direction of the straight line in which the force acts. Newton defines a unit of "momentum", or unit "quantity of motion", as being a unit body, or "mass", or M , having a unit velocity (and velocity = space \div time, or $Velocity = L/T$); i.e., $Momentum = M \times L/T$. A unit *change* of quantity of motion or momentum would, as a truism, be that momentum divided by time, which is $(M \times L/T) \div T$; or, *A unit change of momentum* = MLT^{-2} . Therefore, this law says:- $Force = MLT^{-2}$.

In short, this second law does four things in a vague sort of way which scientists have never agreed about or understood (they don't even agree as to whether the law is "experimentally" provable) :- (1) it asserts the *observed* existence of relationship, and (2) *names* it "force", and (3) *expresses* force in terms of a logically vague *standard* One M and two even vaguer relations, space and time (i.e., it says $Force = MLT^{-2}$), and (4) adds to all that, the extraordinarily complicated *logical comment*, that a *straight line*, or *absolute space*, is *assumed*.

The essential part of this law is that it asserts relationship. The remainder of it is arbitrary or unessential verbal agreements. Orthodox science has overlooked that essential part (*denies it*, in fact), and has tried to hold that the mere verbal agreements or definitions are essential or the real part; and so quite naturally has failed to understand the law—although obviously it could be used intuitively to get excellent approximate results.

The plain facts are (1) that Part I of this book is an intelligible statement of this second law, and (2) that Newton condensed it below the point of intelligibility even to himself. The law itself *strictly* is only "half" a statement of *The related-Many = The One*.

Newton was too brief. Brevity is the soul of wit when *only* the *One* is meant and named. In scientific or Many matters, *all* statements really have an infinite regress, or when *fully* expressed have *no* end or *no* brevity at all. So, in science, it won't do to be too brief. To chop *any* Many statement off, and assert that the rest is nothing or zero, is *exact* science—and absolutely wrong. So we might say that one of the major troubles of science is, that scientists try to be brief and witty or brilliant—and the only proper occasion for the display of such humor is in dealing directly with the *One*.

Incidentally, so far as I can find, all scientists verbally agree that those two laws are part of the foundation of science, and all agree that the first is not proved by experiment or observation, and probably nearly all, that neither is the second. Yet, in flat contradiction to that, scientists claim that science is based wholly upon experiments or observation. We have just noticed them disclaiming “metaphysics” (§1)—and now, right at the beginning of science, find them introducing the grossest, most vicious sort of “metaphysics”—namely, a lot of assumptions and verbal formulas, which they themselves don't understand, and *admittedly* assert as dogma.

Obviously, the elementary remedy for that orthodox scientific contradiction and bare-faced dogma, is to recognize (1) that we do *experience* or observably know the *One* or universe, and (2) that we can and do observe and “experiment” with *words*, as being *actual Many things*. The trouble with scientists is that they deny that they recognize either, or else refuse in one way or another to agree that they recognize either. The reason they are guilty of such almost incredible stupidity is simply this:- if they agreed they could see what all commonsense people readily see, they would have to admit that they have been in error, and would have to go to considerable trouble in changing their present erroneous superstitions. They haven't enough courage and moral strength to do that.

Newton's third law of motion is:- to every action there is always an equal and opposite reaction; or, the mutual actions of any two bodies are always equal and oppositely directed.

That law is the *rough* experimental statement of all Many events or phenomena which are perceptible or observable. Newton here finally definitely becomes scientific, or *starts* to talk explicitly about Many parts (he still makes an omission; see §4 below); and simply says what we all know (because we have never experienced anything else):- that effect follows cause; and is equal to it, or identical.

Newton then stops, without having finished. He shows that he didn't know what the "finish" is, by afterwards summing the three laws into an incorrect law of gravity (see Chap. 22).

(1) In the first place, he condensed those laws below the point of intelligibility. In stating the laws above, I have expanded them much more clearly than they are in any text book I can find. But they are not yet clear. So far, I have been chiefly trying to show how Newton's mind worked—and then how it stopped at a certain point because of his practically unavoidable ignorance of both logic and Many facts. In the rest of this Part II, I shall make the laws clearer (see especially §4).

Newton was half consciously trying to formulate a sound logic—and he did remarkably well under the circumstances: extraordinarily well for his day, and far better than our scientists even yet do. Pearson in his orthodoxly accepted book on those laws (*Grammar of Science*) makes a fearful mess of them, substantially *omitting relationship*. Relativitists do worse than Pearson. Our scientists do so much talking about what a wonderful man Newton was, that they haven't energy enough left to understand his actual work. They are like the steamboat that stopped every time it whistled because the whistle used all the steam.

You can see for yourself that Newton was applying our commonsense trinity logic. But such a logic can't be *intelligibly* stated briefly.

(2) And in the second and last place, because of his excessive brevity, and his own uncertainty as to the precise details of trinity logic, Newton omitted stating what his Many "bodies" are—entirely omitted saying just what a body, or "mass", or matter, as implied by his laws, is. He tried to say, in his law of gravity; and got it absolutely wrong in a One sense, and inaccurate, and an *extremely narrow special case*, in a Many sense (Chaps. 22, 24).

So we now have to add that omitted part explicitly: we have to state explicitly what matter is.

§3

Newton asserted relationship. As we have seen (Chap. 5), all relationship is finally that of identity, or absolute continuity. Later in this Part II we see just how the material universe is continuous. Here we simply take it that Newton's formulation of trinity logic *implies* a related-Many or continuous matter.

As a fact, Newton himself translated his first law (of "negative" inertia) into our everyday language, by insisting that "action at a distance" is inconceivable. Truistically, if there can not be action at a distance (i.e., across absolutely empty space; with no sort of "connection"), then the universe is continuous matter, or One—for we *observe* that action does exist.

Therefore, we conclude, *in principle* (it is shown in concrete detail in Chaps. 21, 23), that a Many part, or "body" of matter, or a mass, is simply a portion of the One universe.

In *practice*, we *usually* conveniently divide the universe into parts which have *approximate* and varying surfaces that give off light. We call a chair a chair, or a Many thing, because we "see" its surface. The detailed meaning of that is shown in Chapters 21 §4; 24. Briefly, the meaning is that the surface *itself* of the chair is in certain atomic motion or change, that gives (*via* intervening structures

called electric fields) our nerve structures or mind a certain degree of reaction called sensation.

Further, by our ordinary language conventions, all "matter" is in motion (Chaps. 5 §5, 21). Newton implies that. We can observe directly that everything we see is in what we call motion.

Two truisms follow from the fact that matter, or any observed body, is in motion:- (1) *Every* part or body in the universe must therefore be in motion relatively to any other body. For, the universe is packed solid with matter; therefore, no part of it can possibly move, unless another part simultaneously moves out of the way to give it room—and so on to infinity or the total One. (2) Each part must therefore *ultimately* be zero in size—*really continuous* with the other parts; *fluid*, in short. For if the parts were finite in size, and packed solidly like the bricks in a wall, obviously one 'brick' would have to move a *finite* distance (leaving an absolutely vacant space, or vacuum), *before* another *finite* one *could* move into that vacuum. That truistically would be a break in continuity, or would contradict the existence of relationship or motion.

It truistically follows that if we take *any* experimentally observable, or finite, body, say a ball, then that ball is in motion, and is acting upon, or exerting "force" upon, all the bodies which surround and touch it. We know, as a matter of direct experiment, that if we simply throw the ball through the air, more or less air will by friction *stick* to it and *effectually* be a part of the ball, depending on its speed.

In short, the actual 'amount' (mass) of that nominal *finite* ball, *changes or varies with its velocity*. Even if the ball is the sun, we know *by experiment* that the light (from other stars) it moves through, affects its gravity pull or mass in a *varying* degree (not in Einstein's alleged *constant* measure—such constancy has not been observed, but variability has been; see Chap. 6 §3). I.e., even the mass of the sun, in whatever "free" or empty space the physicist

may fancy, is, as an observed fact, changed as its velocity changes. The finite sun is not a constant "body" or mass, but varies as a result merely of moving in the light of other stars. (It of course varies in greater degree from other causes. I am here pinning orthodox physics down to at least one crucial cause which its own experiments assert. I am doing that carefully, because all physicists in effect *deny* this law whenever they assert exactness, and then many try to quibble about whether the law is "observed" always to hold.)

We can get the same result (that mass varies with velocity) *as a truism of logic*:- If a body or mass has zero velocity, then the body truistically does not exist (is absolutely unobservable), and hence has zero mass. If a body or mass has an infinite velocity, truistically it will move to *all* places in the universe in zero time, and will therefore instantly be the total universe, or have infinite mass.¹ And truistically, for all finite values between, mass varies in some degree with velocity.

Therefore, both by observation of finite bodies, and by truisms of sound logic, mass varies with velocity. And that amounts to saying that motion *is* matter, or that energy is matter.

Also, that law (mass varies with velocity) is *the* basic *scientific* law, as we shall see directly and indirectly hereafter.

Also, that law obviously is the *positive* or direct form of the 'negative' conclusion reached in Part I, that *there can be no exact science*.

¹ Of course, orthodox scientists assert that a body has infinite mass at the velocity of light, and therefore *can't* move any faster than the speed of light. But you will remember that I quoted Russell's *ABC of Atoms* as saying that scientists also assert that every time a phenomenon happens, the bodies called electrons move at *absolutely infinite* speed. So scientists say that bodies can't have a speed greater than light, (about 186,300 miles a second), and also say in flat self-contradiction that *every* time *any* event occurs, some bodies do move at absolutely infinite speed. Obviously, we can't depend on what scientists *say*. The fact is, that *both* those assertions of theirs about velocities are nonsense, as we shall implicitly see in later chapters. As a truism, or absolute principle, it is obvious right now that no *finite* or *Many* body can have either infinite speed or zero speed—as such velocities are *One* terms.

§4

Finally, the law, that mass varies with velocity, is the direct and *explicit* meaning of Newton's third law, that the mutual actions of two bodies are equal and oppositely directed.

For Newton's law obviously can be true *only instantaneously*. I.e., the *instant* any two bodies act-react, each body has *changed* its velocity, which at once changes the *action* of such body (or changes the *effective mass* of it) on its immediate neighbors—and so on in infinite regress. Obviously, each such reacting body must ultimately be zero in size—which means that it is impossible to *state* exactly, or in *absolute detail*, how two finite bodies act-react (the infinite regress comes in).

In short, Newton's third law is simply an approximate, or inexact statement (although he verbally and wrongly makes it exact). E.g., if a billiard ball is hit by a perceptibly moving billiard ball, the *first* action-reaction is that some of the electric fields of the outer electrons of each, hit each other, and the various parts of those electrons react in various ways to produce an imperceptible amount of heat and electricity. Then that action-reaction spreads to atoms, and molecules; and the molecules move in certain "elastic" ways, compressing the two "balls". Then after a time, when that elastic compression spreads far enough, the balls "themselves", as "wholes", begin perceptibly to change velocity—and so on and on, until finally, after a very small part of a second (in which the whole universe is *started* on a *slight* change), we have the finite balls "themselves" reacting, or "bouncing" away from each other.

Newton's third law, truistically by *his first two laws* (and also by direct experiment), is true only *instantaneously*, or as a *One* limit or *principle*. As soon as it is applied to *finite* Many bodies, a *finite amount of time* must be *explicitly* included in it. Newton *only implicitly* included that time. Orthodox science usually omits such time—which is essentially wrong. I.e., the third law is *not* correct as science,

or in a Many sense. It *strictly* asserts action in *zero* time—which is glaringly self-contradictory or impossible. Or, it asserts scientific or material *exactness*—which is wrong.

So the explicit (and actually accurate) summing up of all the laws is:- mass varies with velocity. Or, there can be no exact science; or, all statements about finite bodies imply an infinite regress, which truistically can never be given fully (i.e., accurately, or exactly).

There is nothing difficult to understand about that—about the essential meaning of “mass varies with velocity”. It is merely a precise, simple way of saying that *friction is different at different speeds*—a fact we all have noticed in some way, and do essentially understand.

Therefore, Newton’s laws (expanded into correctness), and *all* sound scientific laws, mean, or condense into, one scientific law:- mass varies with velocity. Or, in ordinary language, *matter is energy*; or, relative motion of whatever it is that moves, is matter.

We can call that “what-it-is-that-moves” by any name we like:- God, John Doe, substance, Being, ether, electric fields, lines of force, or spirit, or matter, or quanta, or energy, or life, or life force, or soul. It obviously doesn’t make any essential difference what we *name* it; so we can pick any name we emotionally like. That “what-it-is-that-moves”, regardless of the name we prefer, is simply the continuous One. Scientists get into contradictions when they call that One “space”, simply because they then go, and (without discriminating the two) use the *same* word *space* to mean something else, namely, relationship.

That one scientific “law” in effect *says*:- the Many is related together. And it *implicitly means* the whole truth:- *The related-Many = The One*—and as we just saw, we may name the One anything we like.

But as the expression mass-varies-with-velocity is strictly scientific, it does not *verbally* mention the One. It *says* only:- *The related-Many*. And that is not really a statement. I.e., *strict science alone*, says nothing.

But the expression so obviously *implies* the One, or implies the genuine statement *The related-Many = The One*, that we can't help but understand its actual meaning if we have a normal mind, even though it does not *name* the One. And for that reason orthodox science, in spite of its silly claim that it has nothing to do with religion or the One, and its even more silly claim that it uses only inductive logic (which we saw was but "half" of sound trinity logic), yet has been *unable* to avoid *intuitively* completing itself, and getting many practical results right.

In short, the universe is so rationally or perfectly made—so fool-proof,—that even scientists have been unable *in practice* to describe it badly wrong.

CHAPTER XIX

HOW ORTHODOX SCIENCE SUCCEEDS IN GETTING MANY THINGS RIGHT

§1

THE last chapter is all there *essentially* is to science. We know such fundamental science already.

But for centuries scientists have been actively trying to base science on wrong principles, and hence have given us so much bosh that we are confused—not over science, but over their pseudo science.

If you are curious to know just where and how orthodox science goes wrong in its very *foundations*, and just how and why it happens to get so many things right, then that information is given in the next paragraph. The paragraph will seem hard to understand, not because it means anything different from the simple basic truth we have already seen, but merely because it has to use words that are unfamiliar—has to use technical words, or abbreviated words, in order to avoid getting excessively long strings of common words. The paragraph also has to state what orthodox science does say. And as what it says is wrong, such sayings are of course meaningless, or absolutely *not* understandable. Yet highschool teachers require your little children to understand that stuff which simply is not, of itself, understandable.

The verbally defining statement of “force” made by Newton’s laws, $F = MLT^{-2}$, is (as we saw) *strictly* true only instantaneously or in zero time (and *explicitly* is only the *Many* “half” of the truth), being subject to infinite regress in order to become *finite* or scientific. Or, if we

use our dots ..., as in Chapter 5, the *finite* or soundly scientific (half) truth is:- $F... = M...LT^{-2}$. (We can of course stop expressing or observing the dots whenever we guess we are accurate enough.) A proper expansion of that $F... = M...LT^{-2}$, both as regards the dots, and (by explicitly including the One "half") into terms of the *One* or energy, explicitly *comprises all of science* (because $M...$ may be *any* or *all* parts of the *One*). The fact is, that that equation, in its orthodox form without the dots, is *fairly* correct, and hence safe, in our usual engineering or "molar" affairs (because our "molar" bodies vary extremely little with their usual changes of velocity or "condition"). Hence, orthodox science succeeds pretty well in "material" (or molar) practice. *But that equation in its orthodox form (i.e., without the dots) is grossly inaccurate in atomic affairs, and in social, economic, and psychological matters* (because in those matters the $M...$'s, or Many parts, often vary enormously with ordinary changes in condition or "velocities"). So orthodox science falls down badly in those important parts of life—in chemistry and in human affairs. And as science *insists* that its orthodox $F = MLT^{-2}$ is absolutely exact universally (i.e., in all affairs), and also has a *genuine meaning* (neither of which claims is sound), science therefore fails—and it tacitly admits it fails, when it asserts agnosticism or incompetence, and also when it asserts that it is not interested in final truth. Apparently relativitists correctly agree that the orthodox $F = MLT^{-2}$ is *not* accurate. But in practical effect they try to make it accurate by writing it $F = ML...T^{-2}$ (i.e., by asserting that *space* or L is variable, or in regress, or "curved")—and that obviously is a worse logical mess than the one they started with. Then (to repeat it again), to talk about *only* "force", is only "half" a sentence or meaning. If we wish to state the *One* or genuine meaning, we have to assert, or at least explicitly imply, that the force, or relationship, *does exist* between Many parts. Orthodox science *tacitly* agrees to that, and does *vaguely* complete that "half" sentence

about $F...$ by multiplying its F by "space" or L , really *mostly* meaning (or explicitly implying) *by* that L , the *mass* or body or *matter* which is *in* that space L —and gets:—*The One, or Energy* $= F... \times L = M...LT^{-2}$. The $F... \times L$ obviously is a general example of "factors", with L the extensive factor (Chaps. 6 §1, 17 §5), and logically different from the L in $M...LT^{-2}$. And science's name for its One is *energy*.¹

It is also a fact, not needed in this outline of essentials, that in the subject of electricity orthodox science to a great extent agrees with the foregoing (including the footnote). Orthodox electricity does finally go wrong, in the same way the conventional $F = MLT^{-2}$ is wrong. But practically, orthodox electricity implicitly agrees (Chaps. 23-4).

In short, although scientists in theory deny the foregoing approximations, or dots, they in practice *usually* accept them—usually practically contradict their own claims to

¹ Or, it is logically just as legitimate to say that F (and *not* the L , as stated in the text above) *implies* mostly matter or mass—to say that F is the extensive factor. In case we do consider F as implying matter, then L *chiefly* means *relationship* or is the intensive factor or "*potential*"; and we have $F \times L...$ (instead of the $F... \times L$ in the text above). Orthodoxly, L usually *is* intuitively considered mostly relationship or potential, so that the equation more conventionally is $F \times L... = M...LT^{-2}$, instead of the one given in the text. In that more conventional equation, the left hand L (the L in $F \times L...$) means mostly matter or the Many; and the right hand L means *exclusively* relationship, or is a relationship word. That is one of the chief reasons orthodox scientists get rattled:—in this fundamental equation (which in some form is used in *all* branches of science) they use L in two logically different senses—and don't clearly know it. Relativitists vaguely recognize that something is wrong with that basic equation, and try to correct it by making L in the $M...LT^{-2}$ *also* matter or an extensive factor (actually, they try to make the M and L , or matter and space, *identical*). Such relativity makes the confusion worse. Probably the chief reason orthodox science formally omits and denies relationship is that it uses such factors as this $F... \times L$ in all its branches, and relationship is *somewhat* included and hence concealed in *each* of the two factors (see Chap. 17 §5)—both factors superficially *seeming* to be Many or material words, so that as a *third* way, which is verbally the *most* explicit, we *preferably* should write it, $F... \times L...$. In that form, the $L...$ is correctly *written* as a *different* symbol from the L on the right side—and that ought to help prevent the orthodox confusion of the three sorts of words (especially of the $L...$ on the left with the L in the right member). As relationship is thus implied by the "factors" $F...$ and $L...$, orthodox science *ignores* the fact that relationship is also explicitly named by the \times , and by the *strictly* relationship word L on the right side. You can thus see just how confused and erroneous the basic equation of orthodox science ($F \times L = MLT^{-2}$) is. But it is also obvious that the equation, when logically written as $F... \times L... = M...LT^{-2}$, and properly interpreted, is sound. Also, the discussion of this basic equation shows definitely how all this book joins to, and corrects, mathematical science. But for our everyday purposes we do not need such sound mathematical science. For a general statement of it, see *Universe*.

exactness. Further, all scientists (so far as I can find) now *say* they accept the law that mass varies with velocity (although some quibble about its details). And that law contradicts their claims to exactness, or materialism.

Hence, regardless of what we say scientists fundamentally hold, they can always point us to an official pronouncement directly to the contrary. I have above proved the truth out of the scientists' own mouths. But they will probably deny it. They still hold both sides of every question I know of: the only way we may justly say they teach anything, is to judge what they *usually* teach.

The actual *use* of the law, mass varies with velocity, consists of putting the dots (or their equivalents) in Newton's three laws (equations)—as has been done above.

That last paragraph is the gist of this rather technical Section. Only by being thus technical could I show clearly just how orthodox scientists ordinarily omit using everyday knowledge which we common people have. In brief, Newton roughly summed up everyday knowledge, and scientists are still too stupid to use it even as well as Newton expressed it.

§2

Science is thus practically right to a considerable extent in physical or ponderable or molar events, which include much of electricity. There is no good name for such phenomena—"molar affairs" or "engineering affairs" are names perhaps most clearly intelligible.

So naturally, we commonsense people who refuse to take science seriously, and the professional men who pay little attention to scientific orthodox theory, manage to get considerable good or happiness by accepting many alleged exact facts of science as useful approximations. Our physicians, inventors, and business men mostly manage to get the good out of science, while ignoring its materialism and agnosticism. Thus our civilization is rather healthy, in

spite of the fact that it is nominally led by intellectuals who are basically wrong and incompetent.

But those basic errors make scientists usually go wrong practically in (1) atomic affairs, in (2) astronomy *outside* the solar system, and in (3) human or mental or social matters. They mislead there.

Of course, we do correctly know numerous practical facts about chemistry and about man. But we learned them in spite of, and not because of, science. We and scientists got them haphazard, and by intuitive commonsense, and in defiance of what orthodox science holds to be rational. To put it mildly, orthodox science is a practical obstacle, a serious stumbling block, in our search for available power and useful materials, and (worst of all) in our efforts to learn to get along comfortably and well with ourselves.

The doctrines of science led us into the world war (Chap. 15 §3)—which is perhaps convincing evidence of science's failure in human affairs.

Most people, perhaps most scientists, have not noticed that for many years some facts which the chemical scientists kept stumbling upon, have rather plainly contradicted orthodox doctrines—especially the doctrine of materialism or "atomism" (exact atoms). For a generation or so the abler chemists have usually been at variance with the bulk of scientific authorities. But as there have been no first class chemists for a long time, usually the other scientists could frighten those objectors into submission—out-talk them, and bluff them into trying to accept a discontinuous exactness, or materialism.

So chemists dropped sound guiding principles that would have helped them to understand atomic structure and how to get power. The most notorious example of chemists' weakness is Ostwald's fundamental reversal of his basic principles in the preface of the fourth edition of his *General Chemistry*—accepting exact atoms.

The latest special example I have seen of such dogmatic clubbing of chemists, is Millikan's Washington address

(*Science*, May 30, 1924), which is materialism gone mad. This is the address in which Millikan in effect held God himself to be an idiot (Chaps. 14 §3, 15 §2).

Although we have seen the gist of sound science, and have now seen explicitly the basic errors in orthodox science, it may be interesting and useful to many of us to go along for a few chapters looking at some important details of sound science, entertaining ourselves by noting a few of the worst blunders of orthodox science.

CHAPTER XX

HOW AND WHY SCIENTISTS RUN WILD

§1

THE nub of the technical difficulty in science, is to decide whether or not the universe is continuous—whether there is a God or not.

Orthodox science ordinarily concludes that it is not continuous, but is divided into exact or real finite parts. That is materialism, or denial of God, and wrong. If those finite parts are exact, it truistically follows (Chap. 19), that mass can not vary with velocity.

But, as we saw, scientists often in practice do hold the universe continuous. And they *say* they accept the law, mass varies with velocity.

So if you are to have the particular facts that will enable you to judge the trustworthiness of scientists, it is necessary for me to cite some typical details of their views and actions.

I have for fifteen years been trying to get scientists to consider definitely that question of universal continuity. Usually they try to evade it. I have cited Cattell as doing what amounts to that; and I have documentary evidence that four or five previous presidents of the American Association for the Advancement of Science did the same thing—as well as a number of leading officials in British and other scientific societies. Those are typical of the hundreds of scientists I have tried.

The usual fact is that scientists (1) assert an exact science, or real electrons, or at least tacitly condone that dogma; and (2) also accept or condone orthodox mathematics,

which asserts exactness; and further (3) decline to take any genuine responsibility for proving such doctrine. They are dogmatic and irresponsible in considerable degree.

But all that is more or less "negative" evidence of science's error—proof by *absence of action*, and refusal to take action, on the part of scientists. I shall now give a few typical instances of the large amount of positive proof I have accumulated, that scientists are usually *actively* materialistic, or precisely wrong.

Millikan's extremely materialistic address mentioned before (delivered in Washington, April 22, 1924; printed in *Science*, May 30, 1924) asserts flatly that "all scientists agree upon an atom" made up of "two fundamental entities", (1) positive electrons and (2) negative electrons, the two being "electrical charges of exactly the same magnitude", so that the "*mass* . . . associated with" the positive electrons is exactly 1845 times that of the negative. He goes on at considerable length, describing such repeatedly alleged *exact* or *real finite* electrons, which he says occupy only a very small portion of the otherwise *absolutely empty* space—claiming that "all scientists" agree to such bosh.

He then says that "The only place where we [i.e., physicists and chemists especially, but 'all scientists' in general] have differences of opinion, or better, in which there are uncertainties, is in the matter of how the electrons spend their leisure time"—that being the time in which (to translate Millikan with intelligible bluntness) they exhibit absolutely no phenomena. Obviously, at such times, by any self-consistent language, those electrons would not be in existence—would truistically be absolutely unobservable. So Millikan's very assertion that electrons have "leisure time" is pure dogma—is an assertion that merely because *he fails to observe* a phenomenon at a given time, therefore the phenomenon is exactly zero (cf. Chap. 14 §1).

Now, Millikan bought a copy of my *Universe* over two years before he made that address, and at the time of his

purchase I wrote him that in the book I explicitly showed the error of his exact views. I corresponded publicly with him for nearly a year before he delivered that April 22, 1924, address, writing him at length the details of the errors of his exact science, and considering his questions and objections.

Millikan wrote me March 7, 1924, that he agreed with me "that there is no such thing as exact science". He had been awarded a Nobel prize a short time before on the grounds that he had proved the existence of exact electrons. Those (and other) official grounds were published in *Science*, April 11, 1924; and as Millikan had not yet delivered his Nobel address in Stockholm, more or less formally accepting his prize, I at once called upon him in a public letter April 17, 1924, to return the prize when he gave that address, as he had agreed, actually in a public letter presumably carefully written, that there could be no exact science, so that his prize was given him for proving something that he now held couldn't be so.

I also sent a copy of that letter, and fuller explanation, and an offer to prove all statements by documentary evidence, to the President of the Nobel prize Committee in Stockholm. The Secretary of the Committee wrote me that the Committee voted to do nothing about the matter. I received no acknowledgement from Millikan. I anticipated that he wouldn't reply, so I sent the letter to him in four different ways, to make sure that he couldn't very well ever plead that he didn't get it.¹

¹ After I wrote the text above, a modified version of Millikan's Nobel Address was published in *Scribner's* (Jan., 1925). In that version he is careful to state repeatedly the observed facts, that there actually were variations in his *indirect* measures of electrons, so that "electrons" were exact only "within the limits of observational error". However, in spite of being careful thus to state the facts, he then concludes, flatly contrary to those facts, that the electron is not an "uncertainty" (p. 78), that electrons are "invariable", and substantially that electrons have "absolute value" (p. 79—his italics). In short, he has more or less avoided the word "exact", but has concluded with the same old materialism in a slightly new verbal dress (and contradicts what he wrote me he believed). Then apparently, that glaring verbal idolatry or undue concern with mere words, bothered Millikan vaguely. So he says in effect that *by definition* an electron is a certain quantitative charge of electricity, provided such a charge can be observed; he claims he observes that *certain quantitative* charge, and therefore by definition [i.e., as an absolute truism],

Further, I tried to get the leading scientific news syndicate, a more or less (at least formerly) endowed institution called "Science Service", to send out those facts for publication, so as to bring the matter widely before scientists and others. But their director, Dr. Edwin E. Slosson, declined to send out the facts to the periodicals (mostly newspapers) that print his items, on the implied ground that those facts weren't news. Incidentally, according to "Science Service" letter-heads Millikan was on their board of directors—a fact which I of course knew.

Still further, I personally informed two or three dozen prominent scientists of those facts. A good many took an attitude of suspended judgment—were neutral; or fiddled, like Nero, while Rome burned. A number agreed that I was right; but even they, except for one or two, recommended a "hush-hush" policy, just as Slosson substantially did—which in this case obviously *effectually* means (regardless of what they *thought* it meant) :- let the public protect itself against scientific error; or, the public be damned; or, let the consumer of "science" beware.

And last, so far as I can find, not a single scientist has publicly objected to Millikan's exact views, and Nobel prize.

electrons exist, and that "hundreds of investigators" have "literally *seen*" the electrons (pp. 76-8). That amounts to trying to use the sound logic of identity—but wabbles, and asserts that finite questions are absolute or not finite, which is materialism and also glaring foolishness. So being naturally still troubled in his mind, he jumps into mysticism, asserting that "*electrons . . . are . . . merely observed centers of electrical force*"; i.e., electrons are not charges of electricity any more, but some mystery, which is not even discussed, that are "centers" (presumably *zero* in size—for "center" ordinarily means a zero point) *upon* which the charge *resides*. Thus, in this remarkable address, in which he apparently tried to stop being exact, we have this fairy tale:- electrons are *not* exact or absolute, electrons *are* absolute; electrons are merely verbal agreements as to standards, and hence are *solely* a question of *words* or logic; electrons are charges; electrons are not charges, but are mystic zero centers—i.e., electrons are really nothing. Or, electrons are six essentially different things—mostly self-contradictory. — Such is "science". An uninformed person might judge that he had stumbled on a new *Alice in Wonderland*. And that bosh was awarded a Nobel prize, even after I had protested—which shows that presumably our best scientists take such stuff seriously. But it should always be remembered, that if scientists will only use simple logic soundly, and stop their verbal ravings, all actual facts which Millikan and others like him have observed, will be highly useful. The scientists spoil their own case by claiming too much, and by trying to use logic which they refuse to make themselves competent in.

Therefore, scientists publicly and officially definitely hold a materialistic creed. You should judge for yourself what their private views are and, whether they, any more than theologians or demagogues, publish their real views—or, most calamitous of all, whether they actually have any real views, even when they say they have.

§2

As you may think that that is not a typical case, I shall briefly and hence *roughly* relate two more of the numbers I have seen.

T. W. Richards, a leading chemist, was given a Nobel prize in 1914 chiefly for proving that there were exact atoms—for finding exact atomic *weights*.

Richards in 1911 (Faraday lecture) published a proof, or “theory”, that atoms were compressible—and still holds that view in recent articles I have seen. If atoms are compressible, truistically they are *variable*, or are not exact, and can’t have exact weights or *any* exact or absolute property. Indeed, Richards’s lecture definitely recognized that the *kinetic theory* (which is orthodox science’s formal, extensive statement of its exactness or materialism), was contradicted and destroyed by his facts. That theory of Richards’s is another instance of chemists’ coming into collision with exact science.

In a long correspondence with Richards I pointed out various proofs, including his own, that there could be no exact atoms or exact atomic weights. In a letter to me, January 30, 1913 (nearly two years before he got his prize), Richards says:- “With regard to your idea that the observed atomic weights are merely functions of the conditions existing at the present time on earth, I am inclined to agree.” That obviously is a tentative agreement that in principle, or basically, atomic weights are *variable*. In fact, he goes on in his letter at some length, to say in highly technical terms that he thinks I am in principle right.

Yet Richards also accepted his Nobel prize, given chiefly for proving the opposite of what he told me he was inclined to believe. I did not protest to Richards, as he never would commit himself *definitely* to me. But obviously, his acceptance of the prize unavoidably did definitely commit him to the *opposite* belief to the public.

The sequel to that is, that scientists later on decided that atomic weights after all were not exact. They usually dodge committing themselves clearly as to the principle (exact *vs.* inexact), and sit on the fence, saying vaguely that atomic weights are "statistical means". (Incidentally, so far as I can find, all scientists openly or tacitly agree that electrons and various other things, all of which *weigh* something, *pass in and out of atoms*; truistic with that, each atom *must* vary in weight.) Indeed, the President of the Nobel prize Committee, in the very speech in which he said that the prize was given to Millikan for proving *exact electrons*, said explicitly that atoms had turned out not to be exact after all, but "statistical means" (*Science*, April 11, 1924).

The second incident I shall relate started in 1859, when U. A. Boyden deposited \$1,000 with the Franklin Institute of Philadelphia as a prize to any resident of North America who determines by experiment whether all rays of light, and other physical rays, are, or are not, transmitted with the same velocity.

Obviously, the solution of that depends upon whether the universe is continuous. If it is continuous, and each arbitrary part is therefore relatively moving and changing, then as an absolute and immediate truism *everywhere in space there is varying matter*, just as there is always varying air about us. In that case, then each different sort of ray must always and everywhere be changing its velocity, each sort of ray having a different velocity from other sorts, precisely as each different ray has (as is observed by experiment) a different and varying velocity in the varying, moving air and other matter about us.

But if the universe is not continuous, and there really is absolutely "free" space between material bodies (say between the earth and a star), then perhaps that "free space" could be considered absolutely homogeneous (relativitists say it isn't, but "curves" like matter); and I suppose that by *vague* analogy all rays might be assumed to have the same velocity in it. Anyway, orthodox science does assume, and assert, such bunk in a dim way. Relativitists, so far as I can judge, don't know what they think about it, but have two (contradictory) theories on the point.

The Franklin Institute defined the problem as meaning the velocity in "free space"—which more or less *implies* that *materialism must be assumed, and proved*, true. About twenty years ago a scientist showed experimentally that when a star popped out from behind another one that had been eclipsing it, the various light rays *arrived here together*, as accurately as he could measure. So he *concluded* that therefore those rays traveled at the same speed in "free space". The Franklin Institute in 1907 gave him part of the accumulated award (not all of it, as he had not dealt with all the rays required).

Thus, by that official act, science (1) *in part* (i.e., for the particular rays observed) holds the universe to be materialistic, or denies the law mass varies with velocity, and (2) *in part* holds agnosticism.

Incidentally, the fact that various rays actually leave a star together and reach here together as accurately as is observed¹ does not prove that they *traveled at the same speed* in getting here—although scientists, including the Franklin Institute, accept such glaringly defective "reasoning". If a dozen men leave New York together, and arrive at San Francisco together, it by no means follows that they traveled at the same speed. For obviously, each could

¹ Various more careful observers apparently have noticed that there is a *perceptible* change in color for several hours in such cases—that such rays perceptibly do *not* arrive here together.

have traveled a *different route* from the others, at a different speed. And it can readily be shown by experimental facts that those different rays did travel *different routes* in getting here. And it can be shown explicitly why and how they arrive here almost (*not* absolutely) together—and hence travel at different speeds.

That much preface shows the present views of science—shows that officially science is exact or materialistic, and agnostic; and also that it jumps to conclusions which an intelligent child can see won't hold. We now come to the story itself.

In 1911 I submitted the foregoing solution (that different rays travel different paths at different speeds), with rather incomplete proof, to the Secretary (the Institute's active executive). The Institute formally requires that the solutions be sent anonymously. But for a number of practical reasons it seemed preferable that I should not send it anonymously; so I did not. The Secretary accepted it without even a comment on the lack of anonymity (which thus apparently was merely a convenient rule, neither legally nor practically binding). He had it examined, and returned it with the decision that the proof was too incomplete—probably a just and correct decision, which I cheerfully accepted.

Having dug into science for ten years longer, I published the same general solution in my *Universe* in 1921, giving what seems to me an unnecessary abundance of experimental proof, and with a rigorous argument, or statement of principles.

This time it was practically impossible to submit the proof anonymously—it required a large book, and the book was already published (for the proof of the Boyden problem was only a minor incident—a summation of the book from a special point of view). To have delayed publishing the book to meet an arbitrary rule (even if the rule hadn't been already ignored once by the Institute as negli-

gible), would have been forcing the Institute to occupy the immoral position of a dog in the manger, and made me a party to such immorality. But even if I *had* submitted it anonymously, if the Secretary (the same man as before) had had a normal memory he would have recognized the author at once. So formal anonymity would have been a farce, and a practical insult to any intelligent Institute.

But this time the Institute at once officially refused to consider the proof—ruled that I had to submit it anonymously. But now it is for all practical purposes impossible to do so.

I wrote the officials several times, pointing out those various facts. They merely repeated their ruling. So I several times earnestly requested them to furnish me with a copy of the actual written instrument by which Boyden had established the prize, or at least tell me just what was in it, in order that they, as well as I, might judge whether the Institute was legally, or in *any* reasonable way, bound to insist on anonymity. They persistently failed or refused to give such simple information. So I am inclined to judge that they have neither a legal nor reasonable case, and that if I could spare the time for such trivialities, I could go to court and force the Institute to consider the proof.

I finally presented the case to the (then) president of the Institute. He positively declined to do anything about it. But he saw that I was struggling to get some *definite* information about the requirement of anonymity. So he added to his letter what he *said* were Boyden's own **words**, (I doubt whether they were—as Boyden could scarcely have used such terms.) If they had been Boyden's words, they would have shown that anonymity was *not* required (was not even hinted at)—a fact I at once pointed out to the president, as a reason that he reopen the case. I didn't even get a reply to my letter.

The ostrich is said to hide his head in the sand, as his reaction to some important facts in his life. I judge the story

is a myth—that no bird is so lacking in commonsense. Yet we have here an Institute whose officials are presumably scientists, and one of whose legal activities is spread of scientific knowledge, that offers a prize to be permitted to see the solution (from one aspect) of the base of science, but which then refuses to look at that solution when offered.

Compared with such “scientific” humans, an ostrich, even if he lived up to the myth, would still be much wiser than scientists. For he certainly offers no prize to be permitted to see the facts, from which he then hides.

§3

I think those examples show that scientists are materialistic in considerable degree, and then contradictorily agnostic.

And I think those examples show further that scientists are by no means the high-minded, unselfish, candid, pure souls they advertise themselves as being. They dogmatize. And some cling just as fiercely to their traditions, superstitions, interlocking directorates, censorship, and privileges, as any theologian, aristocracy, or financial monopoly ever did—and just as blindly and emotionally.

That is quite natural. Any child who is not wisely and kindly checked, but is regarded as a little tin angel who can do no wrong, will develop the same dogmatic and unsocial traits. We commonsense people formerly regarded ecclesiastics, and kings, and financial pirates as leaders who could do no wrong. And those men, being without the support and kindly guidance of our commonsense, ran wild, until we were forced in self-defence to do our share of giving them our wise and kindly reaction.

In precisely the same way we have let the scientists run wild, with no kindly support or discipline from us. Until recently it has been the fashion to regard them as dealing with weighty intellectual matters beyond our humble under-

standing, and as being sublime souls immune to human temptation and failings. Indeed, they themselves, with various bows of mock modesty, assured us they were all that—and then some more. So they are spoiled, as any child or unchecked adult, would be in like circumstances.

Of course, it is mildly annoying to have such spoiled scientific brats about. We yielded our assent, or at least tolerance, to their scientific clamor—and reaped the painful result of the world war.

But *they* are more unhappy and uncomfortable than we are. For they are closer to themselves than they are to us, and hence irritate themselves far more than they do us. So just like any spoiled child they are nearly always in a painful state of jangled nerves and fatigue. They are no worse than any other human beings who are permitted to run wild.

Obviously, therefore, we should simply tell them kindly that we are no longer fooled by their nonsense, and have had enough of it, and won't pay out of our pockets for any more of it. After that, we ought to do our fair share of giving them a little help in the way of commonsense. Every man must be in a series of common human actions-reactions, or checks and balances, or he will run wild.

All that is the practical solution of the basic difficulties science is in. It is a question of moral courage and steadfastness, and not primarily an intellectual or logical puzzle at all.

Of course, the result of applying that solution to scientists will in most cases be the usual result of applying a little discipline to a spoiled child. Most scientists will sulk—i.e., try to ignore all this. Others will act like the screaming, hysterical sort of brat—shrilly deny the need of any correction, and abuse and ridicule us for offering it.

Badly spoiled brats practically are largely incurable—they will hate us as long as they live. But we can alleviate their troubles somewhat, and at least make them super-

ficially decent. We can speedily cure the scientists of sulks, and of the opposite screaming, by steadily and kindly cutting down their salaries—just as a spoiled child can always be kept somewhat in bounds by permitting him to earn his own living. A few scientists of real worth will appreciate and accept our interest in them.

CHAPTER XXI

WHAT MATTER IS

§1

WE SAW in the last chapter how scientists are officially materialists, but practically fizzle out into agnostics or incompetents when they come face to face with their basic difficulty:- whether the universe is continuous, whether there are exact or real electrons, and so on.

We saw in Part I that if we accept the observed fact that the universe *is* continuous, we have a language or logical foundation that is consistent, intelligible, and agrees with our commonsense beliefs. We noticed a few general facts in real proof or evidence of a continuous universe. As scientists fail on such facts (flatly refuse any place in "science" to God, or the One, or a continuous universe), we shall now observe for ourselves some specific facts that crucially prove a continuous universe.

Perhaps the simplest proof that the universe is continuous is that no one can make a *perfect* vacuum. However much we pump the gas (or other fluid) out of a given space, numerous observed facts show that a little of the expanded gas remains in the space. It is further observed that more gas usually starts *perceptibly* evaporating from, or leaking in through, whatever substance surrounds the space we try to empty.

There is no perfect vacuum in alleged "*free*" space. Many observed facts show that there is extremely expanded gas throughout the solar system, and also outside. Our atmosphere does not stop short off at about a hundred or so miles up, as many careless statements by some scien-

tific writers would lead us to suppose. Observed facts show that it extends out indefinitely (see, e.g., Chamberlin, *Origin of the Earth*, Chap. I).

I think all scientists, if carefully pinned down, will admit that those are observed facts. But they nevertheless hold that those thin gases are really made up ultimately of minute but finite electrons, which are themselves surrounded by, and mostly made up of, absolutely empty space (Russell, *ABC of Atoms*), so that therefore there is absolutely free space—that almost all of each atom, and hence of the universe, is such absolute vacuum, even if there are thin gases between the stars.

Their assertions that there is such free space are pure dogma. They never actually observed any such space, or the absolutely exact electrons which must exist if there is any such discontinuity. I begin to give definitely observed facts which contravert their dogma:-

All observed facts show that space is solidly filled with varying sorts of waves, or vibrations, or “rays” (whatever rays may be)—of which light is a typical sort. So far as I can find, all scientists agree to that; and further agree that any ray, say light, is acted upon by gravity.

There is much scientific dispute over the question, *How much* is light affected by gravity?, but no denial (so far as I can find) that there is *some* effect. But even if there were such denial, all observers I know of agree that light experimentally exerts a pressure, or has momentum. And that, for our purposes here, is equivalent to some gravity effect. For that fact, as an absolute truism, implies that light has mass, and hence weight or gravity pull.

Then, as the sun moves *light* by its gravity pull, truistically, or by the law of action-reaction, light must move the *sun* by gravity pull. So truistically, light, and all rays, are matter, and the universe is solidly or continuously matter.

If the scientists claim that the universe is not thus continuous, it then follows truistically that light is not matter, but is absolutely immaterial, or is “empty space”, so that

immaterial bodies act like material bodies (i.e., have mass, or gravity pull). In short, they would assert that matter is not matter. A man who seriously makes such an assertion is obviously merely insane, and needs a keeper, rather than some proof.

It is possible to go on and use *every* observed fact as showing either directly or indirectly, that the universe is continuous. For if a principle is so, it is so in every case, *without exception*. A *quantitative* or Many generalization is the sort that validly has exceptions. Indeed, not one application of it to a finite case can be absolutely exact—which means that *every* case under a *quantitative* rule is *somewhat* an “exception” (considered for any *finite* time).

But it will be more interesting and useful for us to drop further proof of something we already know, and begin to build our practical foundation of facts or sound science. Those facts will of course all implicitly prove that the universe is continuous—that our general non-materialistic law, mass varies with velocity, always holds.

§2

If the universe is continuous, then, as shown in Part I, it is a substance which is absolutely infinitely divisible. And what we perceive or “sense” as matter, is that substance in relative motion (Chap. 5 §5).

For convenience, I shall call that substance *ether*, which is what most scientists, until recently, called it. The word *ether*, then, is merely a synonym for my more unusual word *Many*.

The *related-Many* is therefore *explicitly* “ether”-in-motion, or is “matter”; and *all* matter, or continuous matter, is the One. As is obvious, we still have our absolute truism, *The related-Many = The One*; and the only reason for using the word *ether* instead of the word *Many*, is its greater familiarity (or emotional force). All of that is merely verbal agreement—*really* proves nothing.

Scientists have been more and more vigorously trying to obtain such precise experimental measures as would enable them to judge whether all the ether did move. The ether which they could not *surely* observe to move (except to vibrate) they called "ether"; and whatever it is that was *perceptibly* in motion they called "matter". They thus made a sort of half-baked dualism, in which ether was the One, and "matter" was the Many—there remaining vagueness as to whether ether existed *throughout* (i.e., "inside") "matter", or didn't.

On the basis of such vague and quite unintelligible ether-matter verbalisms, scientists then proceeded to draw conclusions (which obviously couldn't be sound, as the original logic is hopelessly self-contradictory or vague). Those conclusions were, and *orthodoxly now* are, these three mutually contradictory ones:-

(1) The observed aberration of light is orthodoxly claimed to show that the ether is stationary—is not frictionally dragged *somewhat* by the matter moving through it, as a moving ship drags *some* water by friction.

(2) The Fizeau-Foucault-Michelson experiments on light velocity in moving liquids are orthodoxly claimed to show that ether is *partially* dragged by matter (see Michelson's experiments, *Ency. Brit.*, XVI, 625d). This *partial* dragging is correct as a scientific or Many statement—"partial" meaning simply that friction between any two parts of ether is never *perfect* or 100 percent. The latest crucial experimental proof of this has been given by Miller (*Science*, June 19, 1925)—which will be noticed more intelligibly in the next Section.

(3) The Michelson-Morley experiments are *usually* claimed to show that ether is *wholly* dragged by matter. That orthodox claim is plainly a One or mystic statement—equivalent to saying that a moving ship drags the *whole* of the oceans. Of course, in a *One* sense a ship does: but not directly or *perceptibly*—not as a directly measurable amount. Scientists do not usually make this One claim in

this intelligible *positive* fashion. They put it in the negative form, and thereby confuse themselves worse than ever:- they say that these experiments show that the ether is *not* not-dragged. The only rational interpretation of that queer double negative is the *One* statement:- the ether is wholly dragged. As a *One* statement that is true; as a scientific statement it is not true, as friction between any two parts of ether can never be *perfect*.

Unless you are interested in technicalities you don't need to bother with the details of those experiments. The obvious essential point is, that science has for years been flatly and completely self-contradictory about its basic facts—and *knew* it, although it failed to give that knowledge to the public in an intelligible manner.

Indeed, the leading scientists stated that knowledge so esoterically that apparently most average scientists couldn't understand its essential meaning themselves. If you ask the science teachers in your nearest school if that flat basic contradiction exists in science, the chances are about 99 in a hundred that they will tell you in good faith that it does not exist. If you then ask them to give you the essential meaning of those three experimental facts, you won't be able to understand what they are talking about—and neither will they.

Having got into that mess with ether, it is becoming more and more fashionable for scientists to deny ether. Their reasoning is as follows (although probably they don't know it) :- if we kill the witness to our crime, the crime won't be found out—and perhaps won't be a crime. So they are murdering the innocent ether. As *ether* is merely a verbal synonym for all the Many, or universe, or God, they are murdering God, as he is an inconvenient witness against them.

Also, three brilliant but not very intelligent mathematical physicists, Lorentz, Fitzgerald, and Einstein, came along, and proved an alibi for scientists in those contradictions:- showed by orthodoxly sound mathematics (as is pos-

sible, because such mathematics is unsound and can "prove" anything—see Chap. 7 §1), that space and time itself is inexact, or variable or "curved", so that flatly contradictory exact or materialistic experiments aren't contradictory—space itself conveniently "curving" whenever necessary in order to straighten out the mess. Those relativitists finally also killed or denied ether—making doubly sure of the defense. Two of them got Nobel prizes in reward.

By that relativity defense, (1) the crime of self-contradiction had not been committed by science; a variable time and space was the culprit, that had tricked innocent, high-minded scientists; (2) but the witness to the crime, ether, was killed anyway, so as to be safe.

The more clever scientists, who were bright enough to recognize the trouble science was in, hastened to accept that relativity alibi, and that removal of the star witness. That cowardly rush to apparent safety was so great that it is becoming fashionable for average scientists, and aged ones whose minds long ago were substantially destroyed by materialism and agnosticism, to be converted to relativity—even though they haven't the faintest idea what it's all about.

Indeed, the climax of the relativity comedy occurred upon the occasion of its formal recognition by orthodoxly respectable scientists. According to reports in various periodicals which I have never seen denied, the venerable physicist, Sir J. J. Thomson, arose in his official capacity as president of the British Royal Society, and soberly declared that relativity appeared to be a revolution in science, the greatest advance since Newton, and so on—and added that he himself couldn't understand it. Thus we have the pope of science in effect telling us to swallow a mystery, as being the best thing yet in non-mysteries or knowledge.

So far as I can see, the most charitable interpretation of such a state of affairs is to judge that scientists' minds are failing. Whom the gods would destroy, they first make mad.

To drop my rather overworked metaphor of alibis, and so forth, Einstein's relativity removes those orthodox basic contradictions (viz.:- ether moves, ether does not move, ether moves partly), by saying that (1) there is no ether, and that (2) the observed experimental discrepancies are the result of an absolute variability or inexactness in space and time itself, and *not in "matter"*—that matter is *finite, discontinuous*, and *absolute* or exact, just as orthodox science has been claiming.

So Einstein's *relativity is essentially a mere repetition of the ether-matter dualism of science that preceded it*. For relativity has a dualism of (1) *space and time* (specifically, "space-time", claimed to be variable, inexact but also to be continuous, absolute, One—which is self-contradictory of itself), and (2) *matter* (which is an exact, finite, discontinuous, real, and absolute Many—also self-contradictory of itself). That queer half-baked dualism is obviously merely an ignorant, incompetent attempt to use "factors" (Chaps. 17 §5, 19 §1).

In further evidence of that, Einstein explicitly has *two* theories of relativity, corresponding more or less with that half-baked dualism. Einstein himself says, after holding that space is continuous:- "According to the general theory of relativity [his later, No. 2 theory], the geometrical properties of space are not independent, but they are determined by matter" (*Relativity*, 135). I.e., he himself finally says, in practically so many words, that *variable* space *is* matter—and the statement explicitly contradicts all his talk about *exact*, or *unvariable*, or *discontinuous*, matter. In short, Einstein, like other mathematicians, is simply ignorant of what "factors" or "variables" are, and is basicaly self-contradictory or meaningless.

Therefore, science's effort to escape its three contradictory basic "experiments" by the relativity route, simply breaks down. It ends in the contradiction it started with.

§3

Obviously, the only way out of that basic contradiction is the simple way of stating the observed facts:- that there is absolutely continuous ether (or continuous universe, if you don't like the word *ether*) ; and that every finite part of ether has *some* finite motion, or variability, or inexactness (i.e., *relationship* to the *other* finite amounts).

Then it can readily be shown that the ether 'blows' between the stars; and that a light ray from a star hence does not travel in that moving ether in a straight line to us, as ignorantly assumed by scientists (see the Boyden problem, last chapter) ; but (and you needn't bother to dig out this fearfully technical statement, as it is given better in later chapters), because we are *almost* in ether balance with the stars, will have a general path that practically *averages* a straight line, except for the slight aberration due to our unbalanced orbital motion around the sun (which motion balances with the *sun*, but not *directly* with the star).

In that case, and by similar truisms in the case of moving liquids, it appears that all ether moves, and, by its friction (action-reaction) on adjacent ether, drags that more or less adjacent ether along with it *at varying velocities*. Orthodox science tacitly and dogmatically assumes in the Michelson-Morley interpretations, that the friction would be absolutely perfect or 100 percent, and the *velocities therefore identical*—which is obvious rubbish. There can be no absolute friction, or absolute lack (zero) of friction, between things—although science is continually mixing such One propositions with its finite or Many affairs.

That agrees absolutely with all observed facts, and with sound logic. (Since this was written, further direct experimental facts to that effect have been published by D. C. Miller, *Science*, June 19, 1925.) Also, that actually agrees with what orthodox scientists have been forced by observed facts to say is matter—as we shall see.

Scientists, even the relativitists, seem to agree that *each* portion of matter consists of some sort of kernal or core

surrounded by a *field*. They call that *kernal* "matter", and nowadays name it an electron.¹

So far as I can make out, the scientists say that that vague *field* is "nothing", or is immaterial. In fact, we saw Russell saying (*ABC of Atoms*) that the electrons jumped that field in absolutely no time, and agreeing with the relativitists in calling the field empty space.

So according to Russell's most modern science, the electron *acts* absolutely as if it were "solid" matter extending out to the limit of the "field". I.e., for such science the word *field* is merely superfluous, matter being (vaguely) absolutely continuous [elastic] "electrons". Or, Einstein has the field described precisely as matter is, and the non-relativitists have fields exerting all the forces and reactions of matter. Thus *all the scientists practically have continuous matter*—even though they deny it, and give matter two or more different names.

So scientists actually are in agreement with our common-sense observations and principles. The nub of their confusion (other than the general fact that they have never taken the trouble to learn a bit about language—especially factors or variables), is that they have never genuinely bothered to notice what they do mean by a body, or mass, or matter. They deify matter (are materialists), but don't actually know what they mean by a piece of matter. In fact, they usually openly say that matter is a mystery, just as the theologians say God is a mystery.

So we must decide just what we do *definitely* mean by the word *chair*, or the phrase *any piece of matter*, and by the words *machine*, *mechanical*, *material*. We do that in the rest of this chapter.

¹ An atom (except hydrogen) *orthodoxly* is made up of negative electrons revolving around a nucleus that is said to be a highly condensed (and even more highly mysterious) collection of negative electrons *and* positive electrons. The atom of hydrogen is *assumed* to have one revolving electron, and one positive electron as a nucleus. An atom may lose one, or all of its outside revolving electrons, and remain what is *orthodoxly* the same atom, or chemical "element".

§4

The average man for many thousand years—apparently up to the last century or two—did not consider or name a directly *invisible* gas (such as the atmosphere), “matter”. He also more or less avoided naming a visible gas (such as “flames”), matter.

As a natural result, our language, with commonsense rationality, still implies (and definitely asserts, except for words which intellectuals have befuddled) that a piece of matter, a Many part, a “mass”, or what I shall call a *body*, is, to our *eyes*, a *directly visible zone or thick ‘boundary’ around a part of space* (which zone is *also usually perceptible or observable to the sense of touch*).

That body, in that everyday sense, *might* be *only* that thin, perceptible *zone* (analogous to an “empty” balloon), although in most cases the existence of that visible “outside” or zone implies that inside the *observed zone* is more “matter”, which, like the boundary zone, is perceptible if the outer zone is removed. But such an implication of ‘contained’, or “solid”, matter follows *only* when some sort of previous, and also immediately direct, *observation* (such as breaking up the body and “looking”, “feeling”, etc.) actually proves its existence.

The commonsense man obviously did not by his language assert that the universe was *discontinuous*. He merely observed or noticed a *practical* way of dividing the universe into bodies, just as we arbitrarily and conveniently divide a house into rooms. Indeed, he always more or less recognized the existence of *partially* unperceived, or *not directly* perceived, substance ‘outside’ his observed zone (and ‘inside’ it, if it were “empty”). For many centuries he explicitly named such *additional* substance:- fire and air or breath or spirit, and so on. Ordinarily he never did assert, as scientists do, that merely because he did not *ocularly* see something somewhere, *therefore* there existed *absolutely* nothing there. And the commonsense man as usual was quite right.

For practically, a piece of matter *is* a perceptible *zone* in the continuous ether, the zone being of varying thickness with a certain ether velocity, and having continuous ether on each side of it at sufficiently different velocity from the *ether of the zone*, not to be directly perceptible to our senses of sight and touch. That "zone" or "surface" is directly perceptible to those two senses when it has an ether velocity which causes the zones of ether *in the neighborhood* of our sense organs to acquire velocities that approximate the velocity of light. The continuous ether on either side of that perceptible or boundary zone, or that "material surface", may vary in velocity "up" to infinity, or "down" to zero, as the two *unattainable* One limits. And that ether, on either side of the bounding zone, is not directly perceptible to our *sight* and *touch* (although *all* of it *is* directly perceptible to our gravity and chemical senses, as will appear). But that ether on either side (i.e., *all* the continuous ether) may be made directly perceptible to *sight* and *touch* by adding various instruments to our senses, which tools allow any certain *imperceptible* zone to react through the modifying instrument so as to produce approximately the velocity of light in the neighborhood of those two senses. Tools that produce spectrums of light, X-rays, and other rays, are examples.

That last paragraph is hard to understand, because it has to make a precise statement of something we nearly always take for granted (as our senses automatically work that way), and because we do not usually *notice that our gravity and chemical senses do directly perceive continuous ether*, or what we ordinarily would call *really solid matter EVERYWHERE*.

For everyday purposes we can get along quite well with the simple gist of that hard paragraph, given in the rest of this Section (and expanded into simple details later on) :- The universe is a continuum of eddying ether, analogous to an infinite swirling atmosphere, where velocities of finite parts range between zero and infinity as limits. It would

be practically hopeless or mystic, to try to deal with *every bit* of such an infinity of detail and never-ending variable-ness. So we become practical by *using our individual selves* as units or standard, as follows:-

First, in order to divide the universe into a Many, we acquire the habit of ignoring the fact that our gravity sense and chemical senses (smell, taste, etc.) do perceive the universe as continuous, or solid, or One. (Intellectuals have gone so far in ignoring those senses, that they deny any such perceptions—and hence it will require a chapter or two of facts below, to make it clear that we have such senses.) Having ignored chemical and gravity senses, we proceed to construct the Many on the base of *sight* and *touch*, in this way:-

Our human bodies are bounded by a skin, or average *surface*, zone of moving ether, in which the average *effective* velocity (zone velocities of the very small structures that make the skin itself) is approximately that of light (about 186,300 miles a second in *our* neighborhood of the universe). Any zone of ether not in the skin, which will help that skin to maintain that velocity (make the skin *survive*—and not change or “die” of too much velocity, or of too little velocity or inanition; of ‘intemperance’), is therefore *truistically* (and also observably) of such a velocity that it will produce or cause (across any intervening ether) that velocity in the effective ether of our skins. So those *other* bounding zones (other “bodies” not in the skin) *truistically* will be *noticed* or observed by us. For all the skins that failed to “notice” such velocity zones promptly got changed to something else before they ever fully formed—to some other velocity or mutual relationship which was *not* skin.

So for practical purposes we observe only such thin zones in the continuous ether *as are of that VITAL importance to our skin*, and call them “bodies”. They *are* bodies, like our bodies or selves. They are the parts of the continuous universe that are of immediate or *vital* importance to us.

The very fact that we exist depends upon, *is*, our being "conscious" or attentive *primarily* to our skins *and* those similar velocity zones. We can more or less ignore all the other ether at other velocities, and survive for a while. But we die quickly if we don't observe our skins *and* similar bodies.

Truistically with all that, the whole universe, in a *One* sense, thus fits together, or is "purposive", or is *designed* by God (by itself)—even while in a *Many* sense it is eternally changing (Chap. 28 §3).

§5

A machine consists of at least two *Many* bodies that act-react with each other via or 'across' that continuous intervening ether.

E.g., a lever obviously is really the lever bar (which is conventionally called the "lever") *and* the fulcrum, which is the second body. That lever is a genuine machine *only* because there exists the friction, or relationship, or zone of continuous ether, between the bar and the fulcrum, making the *machine* really a *standard One*. For obviously, as a truism, if there were *no* friction, no absolute connection, between the bar and the fulcrum, the instant we tried to use the bar or make the machine work, the bar would slip off, and we should have no machine.

Any machine (or "instrument") can readily be shown to be equivalent to a lever or a collection of levers. Yet, so far as I can find, science nowhere in stating its principles ever even vaguely remembers that a lever, to be a lever, must have friction or relationship—must have the infinite regress, which in human terms we call love, or value, meaning "workability".

Hence, orthodox science neither knows what a body is, nor how bodies or pieces of matter form a machine. Science has for centuries talked about the certainties and truth of mechanical principles—and doesn't even know what a machine is. Naturally, scientists' "mechanical view" of the universe is nonsense.

A machine (a One; or usually a standard One) therefore consists of at least *three* 'parts':- of two or more *Many* parts, which by the essential third 'part' or thing, *relationship* (which is named friction, or force, or the intervening ether) really form a unit or One.

That description of a machine differs from orthodox science thus:- It uncompromisingly asserts, and *uses*, an absolutely continuous *ether* (an unbreakable relationship—regardless of what it be *named*). Science asserts [pseudo] absolute exactness or discontinuity of finite or *Many* things, and uses the [pseudo] right to drop or break relationship (or law, or life, or humanity, or truth) whenever it likes.

In that description of a machine, I have of course considered *relationship* itself as being "concrete" ether—absolutely continuous ether. In everyday senses of words (as given by the first four paragraphs of §4), relationship is "spiritual" or "immaterial", and not concrete. So this is precisely the point at which science (or the *Many*) absolutely merges into religion (or the *One*). For obviously, it is merely a matter of *agreements* or taste in names or *words*, whether we say "relationship", or that connecting "ether", is material, or immaterial.

Thus, ultimately it definitely appears that our *three sorts* of words are not *essentially* different, but are only *arbitrarily invented* different as a convenient tool. That ultimately agrees with our basic epistemology, that words or language are *not* the reality.

Obviously, therefore, sound language, or trinity logic, is similar to a machine—is a machine, if *words* themselves be considered as being finite portions of moving ether. Actually, words *are* portions of ether or *Many* things (usually, are certain amounts of ink, or of moving air). But often we 'abbreviate', or *somewhat* ignore, that actual fact, and consider words as being *primarily relationship*, or "abstractions", or pointers from one thing to another.

And any *one* of those three parts of a machine may in turn be considered a machine itself. I.e., the ether is con-

tinuous or infinitely divisible; so that if we take (say) the 'friction' in a machine, it is, *in a Many sense*, actually some finite amount of intervening ether with zones of varying velocity, and we could *arbitrarily* select bounding zones in *that* ether, with "friction" between them—and so on in infinite regress. *Those smaller arbitrary bodies would of course have bounding zones not directly perceptible to our sight and touch.* For those arbitrarily selected bodies would truistically have the ether in their zones at a different velocity from the ordinary body zones we started with.

Perhaps the simplest way to understand such sound machines (which split or duplicate in infinite regress), is to take one's own individual self as an example.

We have already seen our body's inseparable connection, and ultimate identity with, the remainder of the universe or God; and noticed that we use its skin as the standard of ordinary bodies or Many things.

But we then take that single human body as being itself a smaller machine. I.e., we can become "*self-conscious*", or perceive an "I" or ego, with organs, or *smaller Many parts*, that work together. The friction (or percipience) of those smaller parts, or really their continuous relationship into a unity or self or "I", is what we call our consciousness, or mind, or spirit, or soul (see Chap. 28).

We say we can't *directly* "see" mind. Obviously, we mean by such a statement, simply the verbal truism that if we name or imply *perceptible* or Many parts as being the self, then the consciousness or spirit is the relationship, or 'unperceived' ether, that unites those parts. Of course, we can't *logically* say *in that same statement*, that the relationship or 'immaterial' spirit is also material or a 'third body' which is "seen"—for logically, we *agree* to use a three-sort-of-word language, and we have to hold to that agreement in any given statement.

But, we can later on, in *other* statements, divide that spirit into other parts (such as intellect, emotions), making sound machines out of spirit or self-relationship itself (pro-

vided, of course, we state *honestly* and openly what we are doing, and don't play fast and loose with the dictionary and then deny doing so, as mathematicians do). And as a matter of fact, we all do agree to divide our "spirit" into "parts" in everyday life (Chap. 28)—thus most glaringly asserting that we *observe* or *know* the mind, even though we do not "see" our mind with our own *eyes*. There is nothing strange or novel about that. It is merely the infinite regress in "concrete" terms—precisely identical with the duplications of language (Chap. 5 §5).

To sum up, any *sound* Many or scientific description of the universe is truistically mechanical.

Such a description *names*, as bodies or Many masses, the parts of the universe that, perceptibly to our skins (the eye is physiologically a sort of skin), are more or less inclosed by ether zones of a certain velocity. Then those bodies act-react with each other 'across' the intervening ether (or their "fields") which ether we consider imperceptible relationship—the sum of the whole machine or mechanism being a unit or One—usually a standard One. I.e., "machine" or "mechanism", strictly considered, is the *conventional* name for what I call a 'One'. Science gets that name so thoroughly messed with its dogmas and superstitions, that I had to adopt an unspoiled name ('One'), in order to be clear.

There are, in such a sound mechanism or logic, two "sorts" of matter:- (1) the *directly perceptible* matter or ether zones (or what orthodox science calls "matter"), and (2) the *not directly perceptible* matter (what relativitists call space and also confusedly call fields, and non-relativitists call fields). But, both "sorts" of matter *are directly perceptible* to our gravity and chemical senses.

There is no *real* difference between those two sorts—merely a *quantitative* difference of velocity, that permits them to be inaccurately and conveniently distinguished apart, so that we can verbally say what is "action" and what is "reaction"—the criterion being that our skins sur-

vive on the arbitrary dividing zone (*never a sharp line*) between the two.

But orthodox science, although it names the fields, then confusedly says they are nothing, or have nothing to do with the mechanism. So science says, that in order to discriminate between action and reaction, we must have two *essentially different* sorts of matter; and asserts (without a single observed fact to prove it), that there are two *essentially different* sorts of electrons. In short, science ignorantly or incompetently confuses logic (verbal agreements) with observed facts.

In sound mechanism, and in trinity logic, there is, to repeat, no exact or absolute distinction between what is the perceptible zone, and what is field or not *directly* perceptible ether. (All ether *is directly* perceptible to gravity and chemical senses, as we shall see.) The velocities necessarily gradually shade into each other, so that there could be no sharp distinction even if all people perceived alike.

But in actual fact, (1) we differ from each other in the keenness of our senses; and (2) any given man will have his own senses vary at different times. So truistically, what a chair is to a certain person depends somewhat on his "taste"—on the way his senses work at a given time.

Of course, *roughly* speaking a chair is the same to all normal people—although as a fact, the most expert experimenters practically never measure ("see") the length of a bar of metal *precisely* the same twice; and a chair is far more changeable and uncertain than a metal bar.

Consequently, because there is no exactness or absolute-ness about *sound* science or Many description, it follows that we can divide the universe into bodies by selecting *any* velocity as being the average velocity of our dividing ether zones, and have a universe that is "perceptibly" different from all other such arbitrary universes.

As a fact, we actually do find it convenient to do that—to have *different* arbitrary universes. I mention seven such convenient ones :-

(1). We have a first sort of universe, which we perceive (*actually* observe) by the relationship we call gravity, where *any* velocity of ether (and hence *all* ether) gives a sensation or perception of *weight* (Chaps. 22-4). We have various vague "senses" of gravity; probably most of them are in the muscles—the "muscular" sense.

(2) Another arbitrary universe is perhaps our most usual one. In it we divide the One into parts by the *ocular* sense, or the sense of *touch*, which, as we have been seeing, uses ether zones at about the velocity of light.

And the senses of (3) taste, and (4) smell are chemical senses that apparently perceive more or less *all* the ether, or all velocities, in certain bodies, in various ways we practically have never measured, and hence know little about in a *definite* Many aspect.

(5) The sense of heat gives still another measure, that we know little about quantitatively. It apparently is a mixture of a chemical sense and the sense of touch, and thus apparently gives us direct perceptions of many ether velocities, but perhaps not all the velocities.

Similarly, (6) the sense of hearing is mostly a sense of touch, but perhaps extends that sense to perceive some other ether velocities.

Finally, (7) our usually ignored electrical sense seems to be something of a combination of all the other senses, and includes such senses as telepathy (apparently radio waves from nerve currents, of which we know almost nothing quantitatively). In short, there is *no* sharp or exact sense or sensation or perception.

Obviously, all those "seven" or more universes are merely different aspects of the same universe. Our various senses enable us actually to perceive *all* the continuous ether. And by using various parts of our bodies, various "organs", we can (1) discriminate various velocities or zones or "surfaces" in that ether, as well as (2) perceive all of it "solidly".

Science has been so anxious to split things *exactly*, that it has lost sight of the fact that we have senses other than sight and touch. Such grossly radical or specialized science has therefore ignored the fact that we do *observe* all the ether, or a continuous God, or absolutely continuous matter. Of course, such specialization was somewhat justified by the fact that to be able to use sight and touch with high accuracy helps us to keep alive and happy. But science's excessive specialization, that in effect holds the other senses to be zero, is false, is useless, and partly kills us.

Because of such specialization of science, those senses other than sight and touch have not been investigated and used definitely. Commonsense men have of course always used them to get the observed-fact base of religion, and character, and practical psychology—to get a foundation upon which to stand, and resist the mad radicalism of science. But quantitatively, we do not know much about those other senses. "Science" has ignored them.

So in order to be conventional, or "simple", this book mostly is based upon the senses of sight and touch. But it has become obvious that even those two are not *sharp* or *exact*. They actually perceive, not an exact and constant ether velocity, but a finite thickness or zone of ether, or a *range* of velocities—thus *to some extent* perceiving fields, or solid or continuous matter.

Science dogmatically asserts, flatly contrary to such *observed facts*, that those two senses perceive only *exact* or sharp or *geometrical* boundaries, so that fields are absolutely nothing.

But the obvious truth is that, even confining ourselves to the two senses science accepts, still we perceive fields, or observe that matter is continuous. With *only* those two senses we of course have to *infer* the existence of *some* portion of the fields. But obviously our inference, or use of reason or verbal truisms to that extent is *perhaps* reliable—is certainly more reliable than science's usual dogma that what isn't immediately seen is exactly zero. It is to be

emphasized, however, that we by no means accept science's bunk, that we can observe *only* with those two senses. It is to be even more emphasized, that *when we use all our senses we directly see continuous matter, or God.*

If "science" can't see that, or refuses to admit it, then such "science" has simply gone mad and is committing suicide by stupidity.

Therefore, we *directly observe* that there can be no exact science or atomism—that every Many or finite thing *is* different from every other thing for any *finite* time. Of course, two Many things *may be* absolutely or exactly equal at some zero instant of time. But by every observed fact, and every principle, they vary at a different rate, and can not *remain* the same for a finite period of time. Scientists who claim *any* physical "constant" or exact body (say electrons), totally overlook the fact that they are asserting that such exactness or constancy holds for *finite* time.

CHAPTER XXII

HOW GRAVITY WORKS

§1

WE saw in the last chapter that matter is continuous, and that we may divide it into Many parts in various ways. *Each* way of dividing the One makes it into a “mechanism”, in which two or more bodies, bounded by ether zones, act-react across the relating ether fields.

That last paragraph sums up *all* the *sound* “mechanics”, or scientific description or “theories” or “laws”, of the universe.

The common man throughout history has used that simple and sound general way of speaking and thinking of the universe in its Many aspect. Usually he is not quite so explicit; but abbreviates the description by speaking of one of the two bodies, implicitly including the other body in an indefinite way in the relating fields. He thus has a superficial dualism of (1) “matter”, or one perceptible material body, and (2) relationship, or spirit, or value, or whatever we choose to call what is conventionally considered not *directly* perceptible, at the moment, by touch or sight.

That in “concrete” or physics terms, is obviously the use of “factors” or superficial logical dualism (Chap. 6 §1), and is merely a sound abbreviation of trinity logic or action-reaction.

Three specific facts show that *all bodies* are thus in a “mechanism”, or have relationship in infinite regress, or are *dynamic*:- (1) As bodies are bounded by ether zones having *finite* thickness, it truistically follows that a *complete* or exact description of even one zone would be un-

ending or mystic—because each infinitely small part of ether in that zone or shell would have to have its path exactly specified for *each* of its infinite points. (2) Obviously, as each such body is acting-reacting with other bodies, its bounding shell is *never* what we call “complete” or perfect—because always the actions-reactions are *changing* the velocities in it (or the zone is never perfectly “closed”). (3) Finally, we can select a bounding zone of any velocity we like.

Sound science is thus explicitly *dynamic*; i.e., always changing. But orthodox science is *basically* never dynamic. E.g., the first paragraph of §1 of Art. *Dynamics* (*Ency. Brit.*) says that science deals with *assumed perfectly rigid* (i.e., static or non-dynamic) bodies, which are discrete (i.e., without real relationship—another way of asserting that they are non-dynamic), and are finally assumed to be in *finite* number (the third way of asserting *static*). Every intelligent person (and even the scientists) know that such assumptions are fictions—that there are no perfectly rigid bodies, and that no one ever observed a really discrete body.

From the dynamic facts in the last two paragraphs, it truistically follows that it is impossible to describe any “body” or Many part exactly, or as being perfect or constant. There can be no exact science.

Therefore, any physics “theory” or description of the Many universe must be merely an *incomplete outline*; a part of the infinite regress; an abbreviated verbal or mathematical sketch, of a bounding zone or “surface” having an *arbitrarily* selected average velocity.

Truistically with that, it is possible to make an indefinite number of *sound* (but necessarily inexact) “theories” or *classifications* or “systems” of matter or “science”—billions of sound “theories”, if we have patience and practical need to formulate them. Similarly, in each of such scientific theories we could have “branches” or secondary *classifications* (standard Ones), each such branch of science having

a selected different velocity range for bounding zones. E.g., there could be branches named gravity, heat, molar mechanics, light, sound, physics, sociology, and as many more as we find it convenient to invent.

§2

Probably the best way to show the soundness and simplicity of the commonsense man's way of speaking of (or classifying) the Many which I have summarized in the last Section, is to use his way to derive an intelligible description of how gravity works.

Newton's law of gravity is:- any two bodies in the universe attract each other with a force [relationship] named gravity, that varies directly as the masses of the two bodies, and inversely as the square of the distance between them. Or, F (of gravity) = $M'M''/L^2$, where M' is one body or mass, and M'' the other. Or (dealing with unit bodies), $F = M^2L^{-2}$.

That orthodox law obviously implies (1) that the force travels between the two bodies at *infinite* speed, and (2) that the force remains the same absolutely regardless of what lies between the bodies. For the law says *nothing* about time or T (so that T has *zero* effect: or the speed is infinite); and says *nothing* about any change in the force due to varying *environment* (includes no dots ...). Obviously, therefore, the law is simply a One statement that relationship (here named "force of gravity") does exist. The *same* relationship may soundly be called "love", or "brotherhood of man", or "mind". Hence, a real understanding of this "gravity" is equivalent to an understanding of "human nature" or of "everyday" affairs.

Or, it deals with an absolutely static (i.e., T is zero), or perfect, universe. So truistically *it has nothing to do with finite mechanics, or actual bodies*, or the scientific Many. It is a religious or mystic statement, and not the quantitative or Many statement it pretends to be. So as a truism,

the “mechanics” of such a law, the mechanics or science of such orthodox gravity, simply can’t be given, as there is none. Mechanics deals with *finite* things or the *Many*. Newton’s law of gravity is a pure *One* statement.

In agreement with that last paragraph of absolute truisms, it is an observed fact that Newton’s law fails to apply accurately to the orbit of Mercury, and fails glaringly in numerous other phenomena.

As a scientific law, Newton’s law is defective because it omits specific mention or consideration of *time*—just as his three laws of motion are defective for the same reason.

The relativitists give an alleged mechanics of gravity by saying that space itself varies (which amounts to saying that space is continuous matter), and that bodies roll along in space so as to curve or vary in their orbits and *thus keep* in a *space* that in effect is of the same energy-density or material-equivalence *as the bodies*—so that therefore space truistically *is* continuous (or perfectly homogeneous in energy).

That relativity mechanics obviously amounts to the truism, that a continuous matter *is* related together (by what we name *gravity*), and therefore is continuous matter. That is entirely true—and in that *directly* truistic sense the relativity mechanics is quite sound. But obviously, it fails to tell us any of the details of *how* continuous matter is continuous. It just asserts that it is: just asserts that the “body” and the “space” it stays in are *somehow* identical. *Mechanics* requires that the precise “how” be *stated*. The relativity gravity-mechanics states an infinitely variable *somehow*—says that gravity works in *some* way.

So for practical purposes Einstein’s alleged mechanics of gravity is merely a quite true reiteration, that if the gravity of (say) the sun acts in a certain measured degree on Mercury, it acts in that measured degree on Mercury. Einstein doesn’t even faintly *hint* as to *how* it works.

The highly extolled relativity mechanics of gravity is therefore analogous to the old “explanation” that a man lives by virtue of his vital force—quite true, but a mere verbal repetition of itself.

Of course, all sound mechanics *are* circular or truistic or verbal tautology. But a *usefully* sound mechanics includes in its circle the total universe *in terms of the related-Many*.

Einstein's circle essentially merely says "gravity is gravity", and omits making *any* remarks as to how gravity is related to (say) electricity, or to the price of bread. He doesn't know what that relationship is: hence his explanation is useless.

The gravest error made by the relativitists, is that they honestly think they have a sound mechanics of gravity. Probably most of them will die still thinking so. An astronomer recently objected to relativity, and one of the most prominent relativitists, Eddington, is quoted by the newspapers as replying: "If anyone should prove that there was a serious error in the calculations of the theory [of relativity], it would necessarily have to be discarded, but I cannot conceive of that now or at any time." According to that, Eddington asserts that his mind is permanently incapable of seeing anything wrong with relativity. Quite likely he is correct about that mental incapacity.

Another prominent relativist, the mathematician Henderson, says flatly (*Forum*, July, 1924) that "*There are no errors of Einstein*" (his italics). He goes on, and says that means that relativity rests upon certain ultimate assumptions that can be neither proved nor disproved. So according to that, Henderson's mind is incapable of seeing anything wrong with relativity, and further, *everyone else's mind* is similarly permanently closed because relativity is absolutely cut off from facts or truth.

Thus relativity authorities inform us that they will die still holding their views; and that, anyway, relativity has nothing to do with facts.

To sum up this Section:-

(1) Newton's law of gravity asserts a One or religious proposition; is not applicable to *any* finite Many body (as it omits time); and can't, as a One statement, have any mechanics or "how". That explains why science has been unable to give the mechanics of such gravity.

(2) The usual scientific attempt at giving the "how" of gravity merely repeats Newton's mystic truism in some other form—and therefore explains nothing, or gives no legitimate mechanics. Einstein's mechanics of gravity is merely one more of those narrow truisms, and like all the rest is not a soundly scientific, intelligible "how".

(3) And I digressed, after discussing Einstein's typical pseudo-scientific gravity-mechanics, to show that relativitists say in plain effect that they are permanently closed-minded on the subject.

§3

There are (for the reasons shown in §1) an infinity of sound ways of describing the mechanics of gravity. I now give three simple ones.

(1) Any two bodies are, by our language agreements, moving relative to each other. Let us consider the earth and the sun, moving relative to each other in the same neighborhood of the universe. Each has an ether field which it by friction more or less drags along with it. Each field is indefinite in extent, but truistically extends out to the other, being continuous with that other field. And where the two fields come together, the fields themselves would more or less grab hold of each other by friction, and more or less hold on to each other. That holding-together, or force acting *mostly* in the line between the centers of the earth and sun, is the force of gravity. Obviously, the earth and sun, as a result of that gravity, would revolve around each other—just as two men moving relative to each other, if they grab hands, would circle around each other if they kept moving.

That simple approximate or average process is the alleged mystery of gravity. The mechanics or description is of course a truism—merely a detailed or Many way of saying that the universe is continuous, or a One, or an acting-reacting Many. But it is a truism that is linked consistently

with all of logic, and all of our observations or experiences of the universe, and is therefore a complete explanation (a fact which will be made more intelligible in the next two chapters).

For clearness, I now have to discuss for two pages the fact that the foregoing gravity is *approximate*—i.e., is “*mostly*” a force acting in the line between the centers of the two bodies.

Orthodox gravity is asserted by scientists (1) to travel at infinite speed, and also (2) to act wholly or perfectly exactly in the line between the centers—to be *wholly* a tension or ‘pull-together’ in what is technically called the *longitudinal* direction (the “long” direction).

As an absolute truism, no actual matter or Many can exist wholly in one direction—in a geometrical line. So no actual force can exist in but one dimension: to claim that it can is equivalent to saying that a relationship is nothing. All forces or relationships, by our primary language agreements, have three dimensions or “directions”.

It is a mathematical fiction or abstraction, or abandonment of trinity language and surreptitious introduction of a different logic, to talk of a force’s acting exactly in one direction. The inevitable truism, and all the facts, are to the effect that actual gravity acts in three dimensions—that there are some slight components of force at right angles to that longitudinal direction: slight components in the “across”, or *transverse*, directions.

But *conventionally*, when those transverse forces are appreciable in size, the motions or events are *named* other sorts of phenomena—i.e., are no longer conventionally named gravity. I shall in the next two chapters show how that naming is done.

The point here is, that *all phenomena are essentially the same phenomenon*, namely:- a perceptible continuity, or action-reaction. Therefore, when we soundly describe *any* phenomenon (including “human” or spiritual), or give its mechanics, we name and show such continuity in the *three*

dimensions of our ordinary language. I.e., we show the continuity or "action" in the longitudinal direction, and in the two transverse dimensions—we take in *all* the One.

Obviously, (1) truistically we can go either in a "backwards", or in the opposite "forward", direction in any one of those three dimensions—any component is reversible. Also, (2) truistically any one of the three reversible components of actions may be of *any* finite size—but *can not be zero or infinity* (although orthodox science is continually irrationally asserting such One "sizes"). Those two truistic possibilities give an infinite regress, or *unending quantitative complexity* of variations, in our single sort of phenomenon. And many of those *quantitatively* different phenomena, but essentially identical phenomena, are given different *names*.

Orthodox science is unable to disentangle those complexities. Indeed, science has never been able to see that the difference in its "phenomena" is merely a *quantitative* difference of size of reversible components, and not any real difference—all phenomena being *essentially* the same. The reason scientists haven't been able to see that, is simply because they assumed, contrary to sound logic and observed facts and all commonsense, that one or more of the three components could be zero or infinity. In short, they confused One words with Many words.

I.e., when they couldn't readily see or measure some small quantity, they dogmatically asserted it to be exactly zero—as we have seen repeatedly. Being materialists, they imagined that it was essential that they know such quantitative facts. So they weakly fooled themselves that they did. When they assert that the two transverse forces in gravity are exactly zero, obviously they materialistically assert that One words are Many words—and are wrong.

But the practical point of all that is this:- the *quantitative* complexity in infinite, and we can not grasp or measure it all; however, as that complexity is not essential, we nevertheless can *understand*, or know, *all phenomena* without having to know all, or even very many, of those quantitative details or complexities.

Therefore, as we saw in the first paragraph of this first gravity mechanics, actual gravity (and not the orthodox fiction), is *mostly* a longitudinal force acting between any two bodies in those cases where the transverse forces are either slight, or are *formally* neglected, being given other names.

However, in all such cases there are *some* transverse forces, which *quantitatively modify* (in infinite regress) Newton's exact or One statement of the alleged *measure* of the force; and which also make gravity really identical with all other phenomena.

E.g., in the case of the earth and sun, *if* gravity were *only* a longitudinal force, then both bodies would have to be absolutely rigid (no tides, no earthquakes, etc.), absolutely symmetrical with respect to the longitudinal line joining their centers (no mountains, seas, etc.), absolutely without rotation relative to each other, and would have to be otherwise absolutely exact. But all those requirements are plainly contrary to facts, and also are logically contrary to our truism, that all finite bodies are *relatively* inexact—or asymmetrical (Chap. 23).

So the difficulty does not lie in understanding how gravity works, and what it is. We have no appreciable difficulty in understanding this mechanics of gravity. In fact, the mechanics is a truism of continuity, which ultimately is the only thing we do know or understand. The difficulty is that as soon as we describe gravity, we *simultaneously describe all other phenomena*; and we then have the never ending task of *agreeing among ourselves* as to *which* we shall quantitatively call gravity, and which some other phenomenon, and the further never ending task of measuring the various phenomena with whatever accuracy we think useful.

I show a little of that unending quantitative detail (a little of that difficulty) in later chapters. We here proceed with the two other general mechanics of gravity.

§4

(2) *Second mechanics of gravity.* — One of the ways of measuring large volumes of water or other fluids, is to run it through a contraction or restriction in a pipe, and note the pressure in the full-size pipe and the *different* pressure in that smaller part (and from the difference and other easy measurements figure the volume). Such a meter is called a Venturi meter.

Other things being equal, the fluid goes *faster* in that restricted part, and hence has *less* pressure there. That is named Bernoulli's principle. It is a truism of the principle of conservation of energy—in this way:- If a stream is flowing through a pipe, which narrows down, then in order that *all* the fluid go through the restricted part it has to move faster through it. And the only way it can move faster is for the part of the stream in the large part of the pipe to push or press the fluid *harder* into the restricted part, in order to make it go through faster. That amounts to saying that the pressure is higher in the large part, or less in the small part where the velocity is higher. It is truistic. But it is a *general* "mechanics", or truism, that will apply to the whole of Many things—is equivalent to "conservation of energy" (and the "law of conservation of energy" is itself a One or *religious* truism, which says that the whole or One *is* the whole or One). And Bernoulli's principle is also a fact that is directly observed, *approximately*. I.e., in so far as we seem to manage to *keep other things equal*, the pressure *is* measured as being lower in the contraction.¹

¹ This Bernoulli principle has been recently applied in the Flettner rotor ship; and various engineers have for some time been trying it in airplanes with rotating cylindrical parts. The Germans call it the Magnus principle—apparently using that made-in-Germany tag, because the German physicist Magnus repeated some experiments with the principle about a century after it had been stated by various members of the Bernoulli family, and experimented with by numerous other men. In the next two chapters I apply the principle generally to all mechanics. That has been done before, by others. I did it in considerable detail in *Universe*, and gave there the general application of this principle to rotary engines or motors. I can now (August, 1925) make no reliable guess as to whether the application of it will be an economic success in engines or the Flettner rotors, as I have made no measures on that point, and never saw any measures on it which seemed to me to be reliable.

Let us consider the earth and sun as temporarily *verbally* static, with the ether flowing or moving in a stream between the two. Obviously, the sun, as well as the earth, bulges into the stream, contracting or narrowing it, as shown exaggeratedly in Fig. 1. Then, by Bernoulli's truism

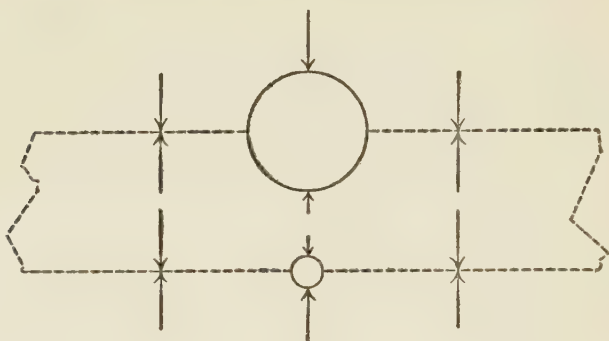


FIG. 1

the pressure of that ether stream against the earth and the sun where the stream is contracted by them, is *less* than its pressure against the surrounding ether (as shown by the longer and shorter pressure arrows). So the surrounding ether will press *harder* against the *outer* sides of the earth and sun, than the ether stream presses against their *inner* sides which bulge into the stream. That amounts to saying that the earth and sun will be pulled together—by that decreased-pressure, or force of gravity.

I started this second set of gravity truisms by saying '*other things being equal*'. Obviously, just as soon as the earth and sun begin to move together, a *varying* friction, with a consequent eddying or rotating of the ether in three dimensions, comes into existence (just as would similarly occur in the fluid of an actual Venturi meter—*Ency. Brit.*, XIV, 44); and *never*, in such actual Many or finite circumstances, *could* other things any longer remain equal. So we necessarily have an infinite regress of what we usually call other sorts of phenomena, which obviously are merely *inseparable* parts of gravity. I.e., *everything* on the sun

and earth, including the price of bread, will, as a result, vary somewhat. (Specifically, eddies in those ether fields directly control climate, which affects both human energy and the wheat crop, and thus affects the price of bread.)

That is precisely what we saw in detail in the first sort of mechanics. And of course, instead of *saying* that the ether moves in such an eddying stream, it is more conventional and convenient to say that the earth and sun move through the ether, rotating and revolving about each other, making eddies or "fields" in the ether. The mechanical principles are obviously the same. The *ultimately precise* expression of course is, that *both* the ether, *and* the sun and earth, move relatively to each other in infinite regress.

So far as I can find, Osborne Reynolds, a British professor of engineering, was the first man to give a fairly sound mechanics of gravity. About twenty years ago he published what practically amounts to this second sort of gravity (*Sub-Mechanics of the Universe*). Several other men have since independently worked out reasonably sound gravity mechanics—even one professional scientist, V. F. K. Bjerknes, seems to have done it pretty well. (I haven't read his actual book on the subject: but he implied it roughly in his *Fields of Force*, which I read.)

British scientists have held in their official publications that they can't understand Reynolds's mechanics of gravity—and also that they can't understand this version of it I give here. Apparently it broke Reynolds's heart that scientists couldn't understand—and he died.

We can notice that *we* have no difficulty in understanding this second mechanics of gravity (it is condensed in Fig. 1); and that, therefore, by direct comparison, our minds (poor as they may be) are shown to be considerably better than scientists'. The British Royal Society gave up Reynolds's simple explanation as being too much for *their* minds. I judge that you, with your unspoiled commonsense mind, can understand it in about ten minutes of moderate study.

§5

(3) Last, I now give a form of the mechanics of gravity that uses our “factors”, or apparent dualism between the material and immaterial (Chap. 6 §1). This way will show us less directly or clearly the mechanics of longitudinal “gravity”, and more clearly the mechanics of “other” phenomena.

Indeed, we shall see a sort of gravity which science denies is gravity, even though it is the action-reaction that observably “supports” different solar or star (also, *atomic*) systems relatively to each other. In short, what science calls “gravity” is *practically negligible* between (say) our sun and any other sun. Another sort of “force”, which scientists refuse to call gravity (calling it vaguely, chemical affinity), chiefly determines the orbits of the two suns.

Or, Newton’s law of gravity breaks down almost completely in quantitative accuracy *outside* our solar system—precisely as it breaks down in dealing with the forces between two atoms or two molecules; or (most important of all) in dealing with human relationships or forces, which are generally called love, instead of chemical affinity.

Scientists look with holy horror upon such heresy (that Newton’s law breaks down thus)—say they can’t understand such crazy talk. But you, with your commonsense mind, will have no difficulty. And always remember, that when scientists say they “can’t understand”, they admit incompetence and failure in their own job.

If a baseball is pitched in our atmosphere, it will, by friction, observably drag a field of air along with it. The atmosphere is not perfectly homogeneous, and neither is the ball perfectly symmetrical in any way—even its cover varies some in roughness. For both reasons the air field of a pitched ball will in some degree stick more to, or go slower across, or pile up more over, a certain spot on the ball (will give more “pressure” there); and the ball will, in a corresponding degree, “curve” or jump away from that pressure, out of its otherwise smooth path. That is merely another example of Bernoulli’s principle—is a truism.

A pitcher tries to control or regulate that curve. He usually undertakes to do so (1) by making the ball rotate rapidly on an axis that points in some rather fixed direction, or (2) by roughening, or (3) by smoothing (e.g., with "spit"), a spot on the ball, or (4) by a combination of those ways. Nearly any ball will curve in some slightly observable degree if thrown fast enough—although in a ball casually thrown the various asymmetrical air pressures tend mostly to cancel each other out. But the pitcher's devices truistically will make the pressure pile up considerably in a certain way that may be more or less controlled, and will give an appreciable curve. Similar control of the curve of a golf ball is far more difficult, because the control is "indirect"—i.e., through a rather uncontrollable club, just as is the curve of a batted baseball.

Similarly, if a large body, say the sun, moves through its surrounding ether, it will "curve", as a baseball does, and for the same reason or "mechanics":—uneven pressure, or asymmetrical friction pull. For, no finite part of the universe can be exact or unchanging, or perfectly symmetrical. The sun itself, and every part of it, and every part of its ether field, is inexact or uneven if it be *in relative motion* with another part. We have agreed to talk about the Many, and observe it "scientifically", as having such motion. So ether pressure truistically will accumulate unevenly in *some* degree on the sun (for if it didn't, the sun would be acting as if it were *perfectly* smooth, or exact). And that ether pressure causes the sun to move in some path which is not straight. In short, that ether pressure "supports" the sun, or determines its orbit.

Briefly, there is action-reaction between (1) the parts of the sun, and (2) the parts of its field. The "mechanics" of gravity is simply a statement that there is a definite summation, or result, of that action-reaction.

Naturally, that "field" of the sun *implicitly* includes *all the other bodies* of the universe. Even if that ether field did not include a single *perceptible* body (planet or star),

it would still, in the Many or scientific sense we are now using, be composed of imperceptible bodies of ether.

So this superficially dualistic mechanism of "support" of (1) a "material" sun, by (2) a "non-material" ether, is obviously merely a *verbal abbreviation* of the foregoing two ways of describing gravity, in which ways 'imperceptible' ether was logically the relationship, or third part of sound logic.

And in this mechanics we explicitly have gravity acting in all three dimensions—with the result that *one* "body" is obviously rigorously supported by gravity, although in an orthodox sense there may be *no other* "body", and orthodoxly therefore *can't* be any gravity or any support.

The fact and the logic is, that any solar system builds up a field of ether about it; and that ether acts directly upon the fields of other systems, in a way in which the longitudinal component (or orthodox "gravity") *may be* almost negligible. I.e., our solar system will "fly" among other systems, with the same sort of mechanics or reactions as are shown by a bird or an airplane in flying, or by a ball in curving.

In short, between two solar systems the conventional Newtonian sort of gravity pull is more or less negligible, the paths of the systems being *chiefly* determined by what we *ordinarily* call electrical and chemical reactions, and fluid resistances, and even biological and psychological reactions. Two or more systems do not by any means "revolve" about each other in the radically (i.e., *extremely*) simple Newtonian and Einstein fashion. That Newtonian, *mostly-longitudinal* gravity acts only *inside* fairly simple, and old or "settled", and rather undisturbed structures like our solar system, in which planets are immersed *inside* the large sun's field, the planets themselves being so very small or non-energetic as compared with the sun that *their* fields have but slight effect in supporting them—but do have *appreciable* effect in some cases (e.g., in the cases of Mercury and Encke's comet [and probably our moon], which observably fail to agree quantitatively with Newton's law).

Scientists do not accept that last paragraph. For many years they have been trying to make the observed motions of the stars fit into their over-simplified gravity theory—always failing. Also, they have other self-contradictions in their radical Newtonian gravity which are so trivially confused that we needn't bother to notice them here.

Finally, their excessively over-simplified gravity so glaringly fails to apply as between two human beings (just as it does between two star systems or two atomic systems), that scientists have become practically inhuman—have lost touch with our most important things, men.

CHAPTER XXIII

BASIC PHYSICS TRUISMS; OR, MECHANICS AND THE MECHANICAL VIEW

§1

EACH of those three typical ways of explaining gravity not only directly agrees with observed facts, but is truistic with the nature, or “properties”, of matter that were shown at the beginning of Chapter 22.

It is further obvious that the so-called immaterial or spiritual, or the alleged “imperceptible”, or energy and life, has been definitely included *and observed* even in physics or “mechanical” science. We saw definitely two points at which science wrongly omitted (or perhaps denied), the spiritual, and became meaningless:- (1) It omits *time* in its statement of gravity—in its basic mechanics. Or it asserts an infinite velocity as applying to finite matters. Relativitists are now trying to correct that—but are making essentially the same error in the opposite direction:- are asserting that the finite velocity of light is the *absolute* limit: that the finite is infinite. (2) And science (including the relativity theory) makes another zero-infinity error by assuming that there are three absolutely separate or discontinuous components of motion, and in a given phenomenon any one or two may be dropped or considered absolutely zero (see any orthodox authority; e.g., *Ency. Brit.*, Art. *Dynamics*). In principle, that is denial of relationship. In practice, that error amounts to asserting that gravity, light, sound, molar actions, life, etc., are absolutely different phenomena—are exact.

That is all of the essentials of mechanics or physics. We

commonsense people already know those essentials. My statement of them is merely a careful verbal expression of what our "consciousness", or experience of ourselves and our world, is:- a continuity, or flowing stream of reality. We have no *essential* need for further details of "science", any more than we have any essential need to know the multiplication table in order to know truth—in order to understand things.

The multiplication table is not "truth", but is a practical Many convenience—an arbitrary list of verbal agreements or names which is useful for us to memorize. I.e., $3 \times 3 = 9$ is not a truth, but an agreement. The *truth* is, that *if* we take a set or group of arbitrary Many things, and give it a formal (*not* an exact or factual or *truthful*) name, and further put with it other arbitrary finite sets, *then* the resulting unit set of Many things may similarly, *if we like*, be given another *formal* name or "number"—and, as truism or honesty, we ought not to change those names without due formal notice. That is all the "truth" there is in the multiplication table—and we *know* that truth (i.e., know the One-Many), or *understand* the multiplication table even if we never memorize it.

To say $3 \times 3 = 9$, is simply to say that we *remember* that the usual English name for such a collection of things into a standard One, is 9. And of course it is quite convenient in practical life to remember it. The memory saves us much wearisome counting up on our fingers.

In the same way, although we do not essentially need any further details of "science" or mechanics, it is often convenient to remember a few. We can scarcely have a language—can scarcely talk intelligibly to each other—until we have agreed upon at least a few such words. So in this chapter I shall give what is more or less the orderly list of conventional names of physics details—shall give the mechanical multiplication table, or classification, of phenomena or events. The chief value of those "physics" names is, that they enable us to understand human or "everyday" names more clearly.

But the fact is, that orthodox science itself is by no means agreed upon those names. Like a young child, science often calls "six", "two"—and is by no means certain whether the way to count to ten is:- "one, two, three, seven, nine, eleven, ten"; or is, "one, two, three, fourteen, forty-eleven, five, ten".

So our first difficulty with this chapter is that there doesn't actually exist any such mechanical 'multiplication table'. And obviously *I* can't agree upon what *you* prefer to name things before you name them; and hence *I* can't actually construct a table for you.

Further, there is no end to that table—just as there is no end to the multiplication table, although we usually agree to stop with 12×12 . I.e., we can name "*different*" phenomena forever. All those so-called different sorts will be merely quantitatively different, although essentially the same as the gravity we have seen. So nobody but you can say where *you* want to stop with the table.

But there is an even greater difficulty, although it is a perplexity of the same sort.

From the point of view of any given place (say from our neighborhood of the universe), there exists a more or less definite and orderly series of machines, or structures, which are of different sizes:- waves or quanta, electrons, atoms, molecules, colloids, men, molar bodies (a brick or a sun), solar systems, galaxies (in which a number of solar systems move around, the Milky Way outlining the basic structure of *our* galaxy)—and so on, into larger structures we don't even have names for.

Some of those structures are smaller than ourselves, and some of about the same size, and some larger. Hence, we observe (1) some of them (the smaller ones) from the "outside" looking in, and (2) some of them from the "inside" looking out, and (3) some we view as substantially equal to ourselves, in which we don't definitely discriminate an outside or an inside.

So the difficulty is that even we commonsense people are inclined to make *three* sets of names, corresponding with those three points of view; and then to overlook the fact that all are still *in principle* one set. Indeed, science, with its usual radicalism, dogmatically asserts that such merely quantitative differences are essential differences. That gives the verbal materialism often named *evolution*. The deluded believers of that material evolution take *quantity* or size to be essential, and hurry to pile up a sizable heap of facts, or bricks in buildings, or dollars.

The final general difficulty in memorizing a scientific or mechanical order of phenomena is the worst of all. It lies in the fact that *any* natural structure is born, lives, and dies, and hence always has, at any given time, a virtual age—goes through ages or stages of infancy, youth, maturity, dying,—and in many cases can be virtually rejuvenated, just as some worms can grow a new head even though intellectuals can't. A natural *structure* is a *quantitative* arrangement of the three components of motion; and as an observed fact (shown in the last chapter), those components do continually vary, or “live”.

So this last difficulty specifically is, that even when we do name a structure, it is never a steady or constant sort of machine, but is always varying its virtual age (its age *relative* to *our* ages) either backwards or forwards.

Science denies the existence of such life in most of its structures. It asserts that electrons are exact, unchanging, essentially static, the same yesterday, today, and forever while still being *finite*—which is glaring nonsense. It asserts various such exact things, or natural “constants”, or un-living structures, or polytheistic gods.

That final verbal difficulty may conveniently, although *roughly*, be solved by agreeing to discriminate *two* sorts of structures, such as (1) our solar system (consisting of sun, planets, moons, comets, etc.), where ordinarily *mostly-longitudinal* gravity is considered as controlling; and (2) our stellar galaxy, where the *fields* of the numerous solar

systems, or *mostly non-longitudinal* gravity, is considered as controlling. That second or galaxy structure chiefly is a rough vortex ring or whirl, with the Milky Way (like a smoke ring some smokers can make) as its base. Various solar systems fly around in that whirl of ether like flying machines. Such whirls are described below, and in the next chapter.¹

Orthodox science recognizes only one basic sort of structure, or 'atom':- the gravity or solar-system sort (with revolving "electrons"). There isn't even a recognized name for the galaxy sort of structure.

The galaxy atom, or vortex whirl, is the *youthful* structure; and the solar-system atom, or conventional atom, is the *older* structure. To repeat, those are *quantitative* differences. So (1) the differences occur in *all finite* degrees. Also, (2) a small structure, judged by our calendar, lives at a different rate from a larger one.

Both those facts (which are also truisms) obviously indefinitely complicate our orderly list of phenomena, because virtual aging of one sort of structure will run out of step with aging of another size structure, and there are no end of "steps" or "ages", although for convenience we have taken only two.

Also, nearly all of the simple sort of structures often are rejuvenated. In fact, this general quantitative variation, which I have been calling a variation in virtual age, is also the same quantitative variation that is named *sex* when it occurs in *certain amounts*. Science in its ignorance of such principles has never measured the amounts—much less agreed as to names for them.

Two structures of the same order, but having a certain difference in virtual 'ages', or quantitative development, or

¹ I won't take space to show the quantitative fact that our galaxy seems to be roughly a vortex whirl. See *Universe* if you are interested in that unessential quantitative fact, which I here use simply as a casual illustration. Outside our galaxy of suns or stars there no doubt are other galaxies (other astronomical 'atoms') in which the chief structural control is mostly a longitudinal gravity, similar to our solar system. Astronomers have scarcely begun to observe such quantitative matters.

sex, may interact or combine in some way to rejuvenate (1) both, or (2) either one; or (3) to make a single young individual. Two such structures observably do so in numerous *variable degrees*, which we shall see. That further complicates our list of mechanical "phenomena".

To sum up briefly, we may start with *any* phenomenon, and if we observe it carefully, it, without changing its *real* character, changes its quantitative measures *continuously* and becomes *all other* phenomena—just as we saw in the last chapter is the case with gravity.

Here I have simply indicated the various everyday names we give to such variations:- age, sex, growth, youth, radioactivity, atomic disintegration and growth, and the obvious variations of those names, such as chemical affinity, lag, potential, heat, cold, combustion, Mendelian units, tropisms, factors, and so on.

Hence, our list of "phenomena", or 'multiplication table' of mechanics, is plainly an *arbitrary*, conventional list. It makes no *essential* difference whether you grasp and remember it, or not. It is a convenience, and will be forever varied to meet men's changing needs.

§2

Having seen the general nature of phenomena, we may begin to look at them specifically or "concretely".

Let us for convenience start with any extremely small, but finite, portion of ether—the minimum body we wish to deal with. For brevity we may name it an *ether cell*, or simply *cell*. As a truism, if we take a *finite* cell (as we must, to be scientific or non-mystic), then regardless of how small we take it, there can always be *smaller* portions of ether inside, in infinite regress.

By our verbal agreements and resulting truisms, (1) the cells "move" *relatively to each other*, and hence (2) each cell itself varies (is inexact, or asymmetrical), or moves *internally*. That amounts to saying, in everyday terms, that

each cell must (1) move in a path that is not straight, and (2) its "contents" must more or less rotate about the cell's own approximate or "average" axis. Or briefly, each cell (1) *revolves* (moves as a whole in some sort of curved orbit) and (2) *rotates* (non-rigidly).

It is to be emphasized that the cell is not rigid. There exists in the universe not one absolutely rigid body, such as science is always assuming. A rigid body is absolute, exact, a One or God; and the customary scientific assumption of rigid bodies is materialism (polytheism).

So we begin with any cell, rotating and revolving asymmetrically. That is the *only* phenomenon there is.

All the various "sorts" of phenomena are simply quantitative differences in the size of the 'cell', and in the relative proportions of the *three* components of that motion—are differences in space and time.

Further, that phenomenon obviously is *logically* simply a truism, or necessary *verbal* result of our observation or experience that there is what we call "motion", or that there is what we more intimately know as life or consciousness. I.e., when we begin to *talk* of *finite* things, that sole phenomenon is simply the *only* or necessary way of *talking*—is truistic with (follows from) life, or "motion".

Or, to repeat that again:- When we shift from the *known*, or infinite, or *continuous* One, or the mystic, to the arbitrary, or finite or Many, or numerical, or quantitative, we simply truistically get that 'finite cell' (which represents any *typical Many thing*) as being varying.

That is the *scientific*, or Many, form of the solution of the riddle of the universe—of the solution of the One-Many contradiction. We can state it mathematically, thus:- It can be proved that the volume of any *closed* figure or One (say a sphere, as an average figure) is incommensurable with the length of its average diameter. I.e., if we have a One, or universe, or any standard One, then *no* collection of *finite-size* bodies will *exactly* "fill" (or 'com-mensurate') that One—or exactly "express" it. That expresses the ab-

solute contradiction between the One and the Many in terms of geometry, or "measures". It amounts to this: if we have a One, there simply can not exist any exact, or rigid, or constant-measure, *finite* Many parts that will *exactly* fill it.

So, if we *talk* of *finite* bodies, then those bodies truistically or necessarily must always be varying, or changing, or inexact, or "moving", or "alive", or never *closed* or *isolated*, in order to "fill", or compose, or "be", the One. In short, there are no *real* finite or "material" bodies—but only *arbitrary*, or "moving", inexact *immaterial* bodies.

All that sounds queer, of course. We are so accustomed to materialistic scientific talk of exact or absolute bodies, that it will take us some time to get used to this correct way of talking basic science.

There is no essential need to remember this queer way of talking soundly. All we need to do is to notice that it will intelligibly agree with everyday events as we come to them below. It already appears that it agrees with what we call life. Scientists, like theologians, say life is a "mystery"—although the obvious fact is, that we by direct experience know better what "life" is than we know anything else.

The real object of scientists and theologians should be to show what "other" things are, in terms of life—not to start with materialistic or rigid bodies, and reach the sourgrapes, agnostic conclusion that such materialism contradicts life, and life hence is unknown.

In short, orthodox scientists and theologians, by holding life a "mystery", agree that they do not understand their own talk—are incompetent, and *impossibly hard to understand*. Even though our talk here is a little queer, judged by materialistic conventionalities, it is intelligible—is consistently merely different truistic ways of saying we know we are alive, or are conscious, or think. We can say it in terms of atoms, or ether, or gravity, or anything else—and do. *That is ultimate explanation and intelligibility.*

As noticed in the last Section, we can get the details or variations of the phenomena of that revolving, rotating cell by observing (1) from the "outside" its internal activity (its rotation or eddying), or by observing (2) from inside its external activities (revolution), or by (3) observing revolution and rotation simultaneously. Because all three ways are essentially the same, below I combine them.

So we begin with any cell, rotating unsymmetrically and revolving among (and ultimately, "around") other cells. By its continuity with or friction on the cells it touches, it starts pulling those adjacent cells around with it. Obviously, however, those other cells are also asymmetrically rotating and revolving, and are thus pulling that first cell in various directions around with *them*. So naturally the first cell and the other touching cells pull each other's ether surface zones a short distance, turn loose (*partly*), and snap back like springs—and thus vibrate or have wave motion in all three components.

That is called (1) *elastic reaction* when it occurs inside the cell, and (2) *waves* when it happens outside the cell (involving elastic reactions of *numerous adjacent* cells, of course). Also, (3) when we take a third point of view, this one cell pulls "bodily" (as a whole or molar body), or pushes "bodily", another cell of *about the same size*. That is the same point of view we take of our own activity when we (say) "lift a weight"; i.e., all *three* components of motion are of appreciable size, and act between two bodies of about the same size. We call the event a molar phenomenon, or molar mechanics or dynamics.

All three of those views, and sets of names, obviously refer to the same essential thing:—friction, or "force", or relationship among arbitrarily finite bodies.

Of course, when I attribute or ascribe "elasticity" to the minimum cells, that name, or logical trick, or invention provides for the whole of the mechanics, or "go", of all phenomena or Many events.

In short, such ultimate elasticity, or wave motion, is merely *another name* for action-reaction, cause-effect, or

our infinite regress, or *inexact* cell. "Elasticity" is merely another name for all phenomena. This explanation of all "different" phenomena is sound and intelligible, or *is* an "explanation", *because* it shows that "different" phenomena *are* merely names for what we all know:- life, consciousness, continuity, or God.

Science asserts exact or constant finite material parts—e.g., electrons all alike. It then contradicts itself by saying that they are perfectly elastic. For the *kinetic theory*, accepted by all scientists except perhaps Richards and a few followers, says *atoms* are perfectly elastic—which amounts to saying that all *parts* of atoms (such as electrons) are perfectly elastic.

But usually scientists conceal, in the "fields", such elasticity or wave-motion—and don't even try to give a consistent explanation of the *fields*. Hence, they really *omit* all description of phenomena—although the giving of such description is supposed to be the business of science. Relativitists conceal their elasticity, or action-reaction, in their term "space", making "space" itself elastic or variable or curved—and then of course surreptitiously assume and use *our* ordinary absolute or *relationship* space under the same name "space". This paragraph shows once more precisely the point where orthodox science fails, and becomes agnostic or incompetent.

When we agree to say that the cell is *elastic*, or that there are *waves*, that is just as far as logic (as truisms of our ultimate observation that the universe is continuous) will carry us. We can not "reason" as to *how much* it is elastic, or how much of the motion is in one component and how much in others. That *how much* constitutes *quantitative facts*; and the *only* way we can find out about them is to go and measure, and by such more or less direct observation judge or guess approximately what future measures, or other measures, will be.

We can be absolutely certain, or *know*, that there *is* elasticity, or waves, or molar reactions. That is a prin-

ciple, or *truism* of our knowledge that we exist, or are continuous with all the Many.

But that obviously does not tell us anything about *how much* any particular action is, or how much its three components vary. For, we measure, or determine how much, by comparing some arbitrarily selected unit with that particular action. In the end, we simply compare the action with *ourselves* as units. E.g., according to historians a yard was at first the king's waist measure—itself obviously a rather variable unit. *But*, our present, most “modern” units are similarly *essentially* not constant, even though they are considerably steadier or less variable than the king's waist.

So we must now begin to be especially careful that we do not try to reason or use truisms about *how much*. We can't rationally say where, or at what relatively-sized components, one phenomenon “ends” and another “begins”. We can only arbitrarily agree on such matters. And it absolutely never will be possible to do otherwise.

In short, there is, and can be, no such thing as an absolute unit or *any* “absolute zero.” All of modern science's elaborate system of “absolute” units and zeroes, is mere bunk. All such units, and alleged zeroes (or places to *start* measuring), are *arbitrary agreements*, that are usually (we hope so, anyway) *somewhat* steadier than the king's waist, but are *essentially* the same arbitrary variable.

§3

Internally, we have our cell asymmetrically rotating. I.e., its internal elastic motion is some sort of fluid “circulation”. Each internal part flows around *inside*, frictionally reacting with the other parts.

If we use structures or motions we are familiar with, we can describe that internal circulation roughly as an eddy or whirlpool—such as we can see in unending variation in any disturbed water or gas. But that internal mechanics (and also external—which is the same) can be described in num-

berless other ways—e.g., as cogwheels (really levers—which has been done by Maxwell and others), as gyroscopes (by Cordeiro, Kelvin, etc.), hydrostatic vibrations (Bjerknes), tubes of force (Faraday), and in unnamed ways like Reynolds's and Erwin's. We simply want the easiest structure—the most familiar,—for our brief description here.

There are two obvious *limits* to that general internal eddying. The total cell contents could, as a One limit that is *not* achieved in any *finite* cell, rotate as a perfect sphere around an absolutely fixed axis, with the maximum velocity on its surface. Such a One-limit cell would be a rigid body (which we could logically say was absolutely elastic if we liked, as zero and infinity are essentially the same); and it would correspond to the exact electrons and nucleuses that science nowadays asserts. It would correspond to the perfect bodies between which Newton's and Einstein's laws of gravity are alleged to act.

There can, of course, be no such perfect eddy or sphere (except the whole universe). Our earth is an example of a rather close approach to such an eddy, with a somewhat definitely fixed surface zone upon which we live. But the earth obviously has tides, both of the sea and land. And mountains slowly rise up and sink down; and the earth grows as a whole by collecting meteors daily. Even more important from this structural point of view, the earth tapers or shades off into an atmosphere; which in turn tapers off into an extremely thin gas throughout space, and also into an electrical ether field—those “gases” and “fields” being comparatively *extremely* variable, or “imperfect or non-rigid”, but still a “part” of the “earth” (see Chamberlin's *Origin of the Earth*).

In short, like the earth, our spherical cell or eddy does not really “stop” at its surface, as we verbally described it (we *must* have a *verbal* surface or boundary, in order to have a Many part). We take up that point later.

The other perfect One limit, at the other extreme from the perfect sphere, would be the *perfect* vortex whirl, anala-

gous to a smoke ring. Of course, no *actual* smoke ring is perfect (except the whole universe). I now describe a whirl in a little detail.

The *ring* or *filament* of a whirl is the ring corresponding to a visible ring of smoke—has the *average* shape of a doughnut. The fluid in the ring rotates (*roughly*—not exactly) circularly around the axis at the middle of the ring; and that *ring axis* or *filament axis* is more or less a circle (is the line that goes around in the middle of the doughnut ring). What we shall call the *main axis* of the whirl is the line through the center of the *hole* in the ring, perpendicular to (the plane of) the ring itself. A finger stuck up through the center of the doughnut hole is the *main axis*.

Obviously, the fluid at the *surface* of the *ring* would have a velocity of rotation about the ring axis greater than such fluid velocity inside the ring. And truistically, that fluid surface-zone would by friction pull the fluid layer or zone just outside it, around at some lower velocity—and so on, outward from the *ring* in every direction.

That fluid flow *outside* the ring would be the *field*; and obviously would consist of a rather rapid flow through the *hole* in the ring, which flowing fluid spreads out, and flows around the ring outside the ring back through the hole.

The ring *plus its field*, is the *whirl*. The field obviously would *extend out indefinitely* at a continually decreasing fluid velocity; and would tend towards having a spherical shape outside. We obviously could consistently agree to say, that the whole whirl is an *eddy* cell which has its (somewhat spherical) *surface* as, and at, any given velocity or zone in that field. I.e., the *whole* whirl turns out to be also a 'sphere' like the cell—as we see in more detail below.

Now, in a *perfect* whirl, the ring fluid would rotate *exactly* in circles around the ring axis; and that axis itself would be a perfect circle. Similarly, the field motion would be perfectly regular; and at an *infinite* distance from the center of the whirl, the *field surface zone* would have *zero* motion, and the whole whirl would be a *perfect sphere*. But

at any *finite* distance from the center of the whirl, such *perfect* fluid circulation would be in absolutely unstable equilibrium—i.e., would tend either to increase in velocity or to decrease, there being absolutely nothing to prevent its doing one or the other. And as we are scientifically, or in a Many sense, taking it that *finite* ether parts constitute the field, it truistically follows (by the theory of incommensurables in §2, or by the fact that a *finite* brick can't move around in a brick wall without *irregularly* jostling the other brick)—it follows that any such finite ether part *will* make the field velocity either increase or decrease at any given finite distance from the center. In that case, field flow through the hole *does* either increase or decrease.

As a truistic result of that, the fluid pressure in the hole, against the ring, decreases or increases, and the ring either expands (i.e., its ring axis becomes a larger circle—expands in diameter), or contracts. (You can directly observe smoke rings expand and contract as they travel through the air—which *experimentally proves* those truisms.) That change in size of the ring obviously truistically continues until the equilibrium is as far out, or *unbalanced*, in the other or opposite direction, as the particular size of the finite ether part caused it to be originally “out”. Then, the change in size of the ring stops, and reverses. Thus the ring keeps on, *vibrating* (in size), like a pendulum.

That vibration of the *ring* (in our infinite or perfect whirl, which obviously is the *whole universe*) keeps on forever, as a simple truism of incommensurability, and with the “absolute expenditure” of *no* energy (there obviously being nothing outside the whirl either to give or take energy). The energy (or “matter”, or structure) merely travels from place to place *inside* the whole whirl.

In short, as is here rigorously evident, no perfect or ultimate One (such as this perfect One whirl) uses, expends, or receives *any* energy. So this universe of ours, to use our everyday phrase, “runs on *no* energy”.

That is merely another way of saying "conservation of energy". What we usually call "energy" in any *Many* sense means "*transfer of energy*" in *finite* measure. When we talk of *all* motion, then all "energy" simply cancels out—doesn't exist—doesn't have to be "accounted for" or "explained". I.e., the *whole* universe needs absolutely no "energy" to start, and run, it.

Therefore, (to talk in terms of *limits*, or *perfection*, for a minute—which terms won't scientifically hold, of course) a perfect *finite* ether cell that is a *whirl*, would have a perfect *pulsation* at its *surface*—just as the perfect *eddy* cell has a perfect *rotation* at its spherical surface. I.e., because of that contraction and expansion of its ring (mentioned above), the finite perfect *whirl* cell would (1) elongate, and thus become smaller around its equator, and (2) then bulge—like a rubber balloon that we pull out and then push together. And it would continue forever in that three-dimension "*vibration*" or *pulsation*.

If the ether outside that perfect *finite* cell were absolutely homogeneous, then that pulsation truistically would cause the cell to propel, or "hitch", itself along forever through that ether in the absolutely *straight* line in which its center *happened* to start moving at the first failure of equilibrium. I.e., a perfect whirl cell would have a *perfect* "revolution" (about a center at infinity), in contrast with the perfect "rotation" of the perfect eddy. (This perfect *finite* whirl would absolutely fit the wording of Newton's first law.)

But of course, there can be no perfect *finite* cell—the very phrase "perfect finite" is a self-contradiction. The foregoing "perfect" talk is partly for the purpose of showing how orthodox science is almost always talking about absolute or One limits, and in such talk can't possibly refer to any actual events. And it is partly for the purpose of showing the One limits *all* science must remain *within*. It shows us *what to keep away from verbally*. Or, it shows us how *not to talk science*.

Sometimes it is extremely important to know what *not* to do. This is one of the times. If you can understand *any* of orthodox science, you can easily understand all of that foregoing talk of limits, as the talk is identical with orthodox scientific foundations (*Ency. Brit.*, Art. *Dynamics*). As a matter of fact, you can't really understand any of that talk of limits, *except* in this sense:- you see that *none* of it can be so in a Many sense, but that most of it is true of the *universe* or infinite One.

§4

What *actually* happens is this:- (1) An almost perfect eddy (i.e., 'sphere') rotates in ether which is *not* absolutely homogeneous or perfect. Therefore, it hits some finite part of that ether—hits a "bump",—and makes itself pulsate *in some degree* like a whirl, and therefore *revolve* some, as well as chiefly *rotate*. But at the same time, the nearly perfect eddy *tends* rather to move *as a whole*, or to *oscillate* (i.e., bounce practically as a whole, like a ball), as a result of that bump. (2) Similarly, the pulsating *whirl* truistically must hit a bump in the ether, and tends to make itself *rotate*, or be a spherical *eddy*, *in some degree*, and hence to oscillate *some*.

So as an actual fact, there is *some* rotation and *some* revolution of *every* ether cell—which is precisely the truisms we saw to start with.

But now, having gone through the foregoing detailed "mechanics", we see that such *truisms* are absolutely consistent with the *observed fact* that there is (1) *some* oscillation and (2) *some* pulsation of *each* natural body, or structure, or "machine"; and that those actions-reactions *correspond respectively* to (1) a spherical eddy or what physicists call a rigid or molar body (like the earth); and to (2) a vortex whirl, or what physicists call electricity and vibrations, and the chemists mention as forming chains of atoms and having chemical-affinity "arms" or "links".

And we see *definitely* that in *no* case can there be any absolute or perfect or exact bodies or "machines" of either sort. Both *perfect* sorts were merely limits. *All actual bodies or structures* (i.e., all actual phenomena), *are partly a whirl and partly a spherical eddy.*

What we call a *young* organism or structure tends to be *mostly* a whirl (fluid, plastic)—and an *old* one, a spherical eddy (solid, rigid).

But, as there is no such *finite* thing or phenomenon as a *perfect* whirl, there truistically can be no *absolute* birth, or absolute beginning of a structure from *no structure*. The similar fact is true of *absolute* death. No structure can absolutely disappear or cease to be some sort of structure. All structures merely change into other structures, there being *no* absolute *Many* or scientific beginning or end. A First Cause, or first logical premise, absolute death or absolute zero of *any* sort, or any absolute or exact measure, is bunk,—is simply quackery, due to ignorance both of elementary facts and the simple principles of words.

Thus we get important practical conclusions and understandings, by following the general or summarized details of how any phenomenon actually works. All of us *know* those details—as will appear hereafter. Of course, the statement of them in the last few paragraphs in terms of perfect limits is a bit puzzling. But those are the terms orthodox science uses exclusively in its basic mechanics, and I was obliged to show how they translated into really sound and intelligible terms. There is no particular need that you try to remember or understand that translation.

The *perfect limit* mechanics of (1) spheres (rigid or molar bodies), and (2) whirls (electric or elastic bodies, or waves), are already known by science, and somewhat consistently expressed by the usual text or reference books. Those books are simply exaggerations, and undue simplifications (exaggerations to "zero"), of the actual facts. So we can understand those orthodox descriptions *if* we always remember to subtract their exaggerations from them—

remember that there is never the exactness or perfection they assert, but that each phenomenon is somewhat all others.

Many scientists of course have some commonsense, and use it to describe various phenomena rather correctly—tacitly abandoning their basic exactness for the moment. And most of our appliers of “science” largely ignore materialistic doctrines of exactness, and use commonsense. So most of our applied science, such as transportation, communication, power, business, and medicine, actually uses the sound mechanics above.

§5

I give the important mechanical details of various branches of science in *Universe*. If you need such details they are there. But unless you are some sort of engineer you don't need to burden yourself with even those rather short beginnings of the infinite regresses. It would be merely “information”—and it is just as bad or painful to burden the mind with unneeded information as it is to burden the digestive apparatus with unneeded food.

Indeed, unless you have an unusual memory you won't remember the mechanics in this chapter for more than a day or so. When you remember $7 \times 5 = 35$, you do not remember *each* of the 35 things you saw when you made five groups of seven objects each and counted the objects step by step to see the result 35. Probably you never did verify $7 \times 5 = 35$ that way, but simply took somebody's word or “authority” for it, and remembered it. The mechanics here is similarly a basic or first ‘counting’ of *everything*. You do not need to remember the details of the counting itself.

But science (1) says it can't ‘count’ (is agnostic or incompetent); and then it (2) does make a pretense of ‘counting’, doing it exactly or materialistically. So I have *explicitly* given a description of sound ‘counting’, in this

chapter. It probably is desirable that you, for this one time, follow or "verify" those two 'countings' (science's and mine) for yourself, to see which is actually right.

For obviously, there is no "authority" you can rely on in this matter. You have to do this basic 'counting' for yourself until there *is* reliable authority. If your commonsense mind is still reasonably unperverted by orthodox science, you will see that scientific 'counting' gets basically incorrect, unintelligible results, which, if you accept them, must necessarily get you, and especially your children, into trouble or pain.

You will see further that even though you forget these detailed sound mechanics nearly as fast as you verify them, you have essentially understood them, as being simply a statement that *things are continuous, but may arbitrarily be divided* into acting-reacting or moving, varying finite things. That is the gist of this chapter—the conclusion. And you will have no difficulty in remembering that, as you already know it, as being the sum of all your experience.

It may be useful to you if you casually read a rough and general application of this basic mechanics to our usual phenomena. So I give such application in the next chapter.

But again, and for the same reasons, there is no need that you try to remember the details. Simply a casual reading of them will give you at least a rough idea of what everyday "things" are. Such rough ideas are all we practically need in ordinary life—and they are vastly better than the agnosticism and mysteries the intellectuals urge upon us as being infallible knowledge and real thinking.

CHAPTER XXIV

ORDINARY PHENOMENA, SUCH AS HEAT, LIGHT, ELECTRICITY, ETC.

§1

WE SAW that a finite, not quite perfect whirl, chiefly would pulsate, and thereby propel or “hitch” itself along (*comparatively* slowly) through the ether (similarly to the way a jellyfish propels itself). I.e., it directly “supports”, or “*revolves*”, or moves, itself by its reaction with the surrounding ether, without any appreciable help by (or exhibition of) ordinary “gravity”.

That phenomenon is obviously the same as the third description of gravity (Chap. 22 §5). The phenomenon is also what is usually called electricity, as we see later.

We further saw that any asymmetry in the ether, either inside or outside that whirl, also started that ether to *rotating* in some degree. And *every* finite part of ether is truistically such an asymmetry or incommensurability. So if there is any asymmetry *of sufficient size as compared with any given whirl*, either inside or outside that whirl, that *asymmetry will in turn produce an ether current or flow which will form another smaller whirl*.

In short, the first whirl will forever *give birth* to smaller whirls, both inside itself, and outside—or will, as a practical limit, split *nearly* completely into smaller whirls.

Also, by the same truisms, any whirl will, when it comes comparatively near enough to any other whirl of a proper size, *combine* with that other whirl, producing chiefly one larger whirl.

Incidentally, that (1) giving birth, or splitting, and (2) the quantitatively opposite combining of two whirls, are the action-reaction, or quantitative balancing that is commonly taken *together* under the name sex, or sex process. I.e., sex fundamentally is merely an absolute synonym for action-reaction (being a relationship word in that aspect). Hunger, or food assimilation, is the same thing, in a different quantitative degree.

The detailed mechanics of that (1) *birth* or splitting, or (2) the opposite-direction phenomenon, *growth* or combining, is pretty complicated (i.e., simply lengthy), and will not be formally given here, as it is essentially a repetition of the mechanics of the last chapter, with careful attention given to the *three directions*. (It is given in *Universe*.)

But if you will wash your hands with a viscous soap (such as castile), and somewhat carefully let soapy drops of water fall from your hand into the basin of water, those drops often form themselves into definite little whirls, which observably travel in various ways in the water, depending on the conditions. If you use a soap that makes a less viscous lather, such as Cuticura, clearly defined whirls form less often, and then usually travel too fast to permit good observation.

You can see those soapy whirls occasionally give birth, both internally and externally, to smaller whirls. For obvious reasons, it is much harder to see internal new-born whirls, than external. And under proper conditions, two whirls will combine, or "grow". It is difficult to control conditions positively, with that simple apparatus of hands, soap, and water. If you want descriptions of more elaborate and better controlled experiments, see *Universe*; or, the same essential kind of experiments, in the vibrational or wave aspect, are given by Bjerknes.

You can thus see for yourself that such mechanics does hold. You can see better from the actual experiments just how such birth or growth goes, than you could be told in a volume of talk or equations.

Indeed, no mathematician can ever handle *all* the infinite regress of such birth and growth, which we can see about us in various forms all the time. Repeatedly scientists have started describing the universe by such whirl mechanics. Descartes, several centuries ago, was the first, so far as I know, to do it considerably. But for mathematical or verbal simplicity they adopted the falsehood that the whirl was frictionless—and so was eternal, perfect, absolutely discontinuous from other things, and without possibility of such birth or growth—or, indeed, of *any* action-reaction with its surroundings.

Scientists *knew* they started with that falsehood; but they shortly forgot it, came to believe their own falsehood, and thus blinded themselves to the facts. So they all failed: got statistics or materialism: got such rubbish as a “fortuitous concourse of atoms”.

That is always the natural, practically inevitable, result of dealing with fictions, falsehoods, assumptions, postulates, first logical premises, hypotheses. The human mind simply isn't strong enough to deal in fictions without grave damage—and truistically never will be. But through the ages swelled-headed scientists and statesmen and other nominal leaders thought *they* had superior minds that could with impunity start with falsehood and remember not to fool *themselves* with it. The invariable result has been that they shortly end with minds debauched into believing it.

§2

We saw that all actual whirls are quantitatively somewhat *eddies*. So before going on with the *whirls*, we take up eddies explicitly, and carry them along too.

No actual finite or Many eddy is a perfect sphere, with perfect circular *rotation* inside—as we saw. For the eddy will drag the ether outside its sphere, equatorially around in a fluid circulation that is somewhat a ring or filament. (And similarly, internal currents will be set up.) I.e., the

eddy starts turning into *pulsating whirls*. That outside current or ring can not be perfectly symmetrical—which truthistically means that in *some* quantitative degree there will be a “component” or current at right angles to that equatorial current.

Without trying to follow the detailed mechanics, we can take the earth as an observed example. The earth drags an equatorial current of upper air and ether around with it—shown in the electrification of the earth as a whole, and as the equatorial bulge (‘ring’) of the “solid” earth itself. And the asymmetrical part of that equatorial current (the ether current at right angles, north and south) is shown directly in the fact that the earth is a magnet (and indirectly in other facts).

The phenomenon that is directly observed as a result of that earth asymmetry (of its whirl characteristics) is not the breaking up of the earth into “solid” parts (although some mathematicians have computed that the moon *was* born that way), but is the earth’s “electrical” reaction with the sun, moon, etc., as follows:- the earth gives off and takes in electrons, and has its climate directly and indirectly determined by such field reactions with other astronomical bodies. I.e., practically all our wind currents are rotating, revolving *whirls* of air (named cyclones and anti-cyclones: “lows” and “highs”), due to reactions of the earth’s field with other astronomical fields (details are shown in *Universe*).

In short, although it is not quite such a clearly observable fact as in the case of whirls (say the soapy water whirls), still any finite eddy, or spherically rotating portion of ether (such as the earth) directly (1) gives birth internally and externally to smaller structures (the most perceptible in the case of the earth being air whirls); and similarly, (2) grows, or combines with other suitably sized structures.

Orthodox science does not explicitly recognize, or agree to, such facts or mechanics. It calls those observed examples of them:- electrical, chemical, and wave phenomena.

I.e., science does say that “electrons” are (1) given off (birth, splitting), and (2) “captured” (growth, combining)—but then substantially says it doesn’t know what that means, or *why* and *how* it happens. Science recognizes our facts, but then by its exact theory denies the possibility of such facts—more *Alice in Wonderland*.

We thus see by facts or “experiments” (and mechanically or logically, it is an absolute truism), that *all* Many structures are continually giving birth to other smaller structures, and are growing by combining with other structures. Any given structure, whether it be a cell, an atom, a man, or a galaxy, is always doing both—doing one in some places in itself, and the other in different places.

So the question of whether a given structure is growing old, or breaking up, or “degenerating”; or is rejuvenating itself, or “growing”; can be answered only by measuring the sum total of the decrease and increase of itself at a given time. Often there is no *perceptible* difference in the two amounts, and we can’t surely judge.

In that way the whole universe or God is always and everywhere *making* Many parts or organisms *out of other Many parts*—God himself being the continuous, and therefore eternal (or timeless), whole. From a *One* point of view, those parts “make themselves”, or are “self-created”.

We there see the total method by which God works. We each being continuous with the universe, and each therefore ultimately being God, there is obviously no reason whatever why we shouldn’t know all the general truths about God. As an obvious fact, we do.

Thus there exist Many parts, or structures, of varying sizes, from ether cells to stellar galaxies. Galaxies like ours are electrons of larger atoms.

Those structures exist in infinite regress both inside and outside *any* given finite structure. They vary from nearly perfect eddies to nearly perfect whirls, and truistically they must exist in numerous degrees or steps (1) of being broken up (i.e., of showing phenomena of heat, combustion,

radioactivity, and waves from one point of view), and *re-*acting steps (2) of forming or growing (i.e., electricity, waves from the opposite point of view). All phenomena are the breaking up of some structures, and the simultaneous formation of others out of those.

Finally, the structures truistically exist in numerous degrees of combination or union with others. I.e., *no* structure is absolute or exact.

§3

Probably the truism about those various different sized structures, perceptibly partial structures and combinations of structures, which is most important for us to notice nowadays, is this:- all those time-and-space, or quantitative, variations are *proportional* to each other; are *dependent* upon each other; are *related* to each other.

The following is the direct application of that principle:- In our universe neighborhood here on earth, we have certain "conditions"—i.e., there is a certain continuous collection of structures about us and in us. If we break up those structures in certain ways, we get structures we name atoms. The *size* of those atoms (meaning here *all* the quantitative facts or measures of them), truistically *depends upon the other structures* in our neighborhood; and depends more directly upon all the motions, or "phenomena", of those structures which occurred in the breaking up of any given structures into the atoms. Therefore, if "atoms" be formed by some *quantitatively different* process, those atoms truistically must be of *different* 'size'. Also, atoms in some other neighborhood (say on Sirius), produced by analogous processes, are necessarily of another size—possibly have great quantitative differences from ours. But, our important principle is:- (1) negatively, there are no exact atoms, electrons, or other structures; and (2) positively, those atoms (even though they are quantitatively different) everywhere have sizes that are in a certain pro-

portion or *harmony of relationship to their neighboring structures*.

In short, a mouse doesn't give birth to a mountain—nor literally speaking, a mountain, to a mouse. There is always a certain decent fitness of things (which we see, if we see clearly enough). There is always a quantitative harmony of proportion; or *periodicity* (as in the periodic table of chemical elements); or balance; or *beauty*; or what we call temperance or moderation, when speaking of human quantities.

As an absolute truism, the universe, or God, is beautiful, in the sense of having fitness or continuity of parts. It is the business of the artist (whether he deals with paint, money, words, soils, or sauces) to show us *enough* of his particular aspect of the universe to permit us to see or experience clearly that the universe *is* beautiful—that the parts of it he gives us do have fitness, use, harmony, purpose, as they perceptibly join on, and on, to other parts, up to the infinite One.

Or, an artist is a good workman—a good practitioner with his particular Many things. It makes no *essential* difference whether he handles a trowel, a scalpel, or account books. If he does it well, he is a good workman, an artist, and a success.

In physics, that quantitative harmony is *really* relativity. The relativitists are trying to say that. But because they are professionally committed to exact mathematics, exact electrons, and “constants”, what they chiefly actually do is to mess up our language.

The materialist is the man who holds that any part of the universe is exact or absolute. He thus claims that that part can't change harmoniously or fittingly. He is the anti-artist—denies continuity or religion, instead of trying to show it. He asserts absolute ugliness, sin, or error, and thereby more or less destroys himself; or makes himself, as a finite individual, ugly or out of harmony. Of course, if we take a wider view of things than just that half-portion

of a man, it is fitting and beautiful that he should thus largely destroy himself.

That principle of harmony of things shows why man fits his environment as if he were purposely "made for" it. Obviously, he *is* made for it. The environment itself, ultimately the whole universe or God, did make the structure that is a finite man, and made it in harmony or fitness. It simply, as an absolute truism, couldn't have been otherwise. For that man *is* finally the universe, and couldn't ultimately be *unfit* or *not* God.

In that *One* aspect, the principle is called the "purpose" or "design" of God or the universe. It is a principle the philosophers call *teleology*; which theologians call *grace*, *predestination*, and more indefinite names; which psychologists call *freedom of the will*; physicists, *natural law*; economists, *supply and demand*, *value*, and *the law of marginal utility*; the statesmen and lawyers and moralists, *sovereignty*, *responsibility*, *duties*, *rights*; and which we call *courtesy*, *kindness*, *happiness*, or *beauty*. In general, the principle is the every-day form of cause-effect, action-reaction, universal relationship.

You see, this commonsense physics or mechanics I am stating here is by no means an abstract, practically useless subject. It is giving definitely and *rigorously* (i.e., with absolute sureness and reliability) the solution, *in the simplest terms*, of a question we all encounter daily. For all of us, regardless of what we name our chief job, are in some measure artists, moralists, statesmen, economists, physicists, psychologists, theologians, and philosophers. We can't be a perfect or absolute specialist, any more than we can be a perfect whirl.

That principle of "purpose" simply is:- in a *One* sense there *is* purpose, or design. In the opposite *Many* sense, there is *not* any purpose or design, but simply a *time-space* working out *of* that law or purpose—or action-reaction in its proper or harmonious sizes.

Those two verbally opposite statements plainly say the same thing. God being a One, which is timeless and spaceless, by that very fact of being continuous, truistically has an absolute purpose or design for the *total* activities or structures of the universe to eternity. We ourselves, in our One aspect, are God, and similarly have that same purpose. We too, in that sense, *intend to be* moral, or lawful, or continuous. Indeed, we can't conceive of being anything else; everybody's *intentions*, in so far as he *really* has any, as a simple truism *are good* in this One sense. In a *One* sense, we are absolutely free—which also means we are not in any such sense quantitative, or personally individual. (For the psychological aspect, see Chap. 29.)

But then, when we (or God) come to *work out* our purpose, *truistically* we have a Many or time-space business. So the *Many things themselves* must conform to "law", or to absolutely "predestined" or un-free quantitative action-reaction. If they didn't, as a truism there could be no purpose, design, or harmony.

As there really *aren't* any finite Many things anyway (their existence being merely a verbal invention or agreement), you can if you like say that there isn't any such thing as un-freedom, or "blind purposelessness". That would be mystic, One language. In short, you don't *have to* use scientific or Many language. It is merely a convenience.

§4

Of course, we commonsense people have been somewhat befuddled by the materialistic scientists' claim that there is *no* sort of purpose—and by the theologians' inability to refute that exact-science view.

But our chief difficulty has been that we often looked at things, and they seemed to us to be a nasty, ugly mess, with no visible fitness or harmony. So we were tempted to conclude hastily that there was no One purpose or unified de-

sign—that our own One purpose or good intention, which we with sturdy commonsense always recognized, was possibly an illusion—even a weakness. For scientists were talking about a pitiless, blind nature, red in claw and fang—and all that rot.

The only general cure of that genuine difficulty is to see that ultimately there *is* perfect harmony or fitness or justice. The proof that there is has been rigorously given. You can see that truth *in general*.

But although I too see it *in general*, it in detail practice doesn't always work for me. When I see some cheap scoundrel selling adulterated food for babies, or some dull-witted demagog stirring up fear and hence hate between classes or nations, or see some stupid scientist dogmatically feeding materialistic poison to people, I am inclined to forget that the world is lovely and beautiful. I am inclined to get disgusted, and eliminate those ugly, degenerate blots on the landscape.

Obviously, that detail view is still consistent. Those *are* temporary, and locally small, spots of ugliness; and in a wider sense it is beautiful and harmonious that somebody should help those spots eliminate themselves faster. So long as I don't get a grouch, or fall into the mistake of fancying that the whole universe is ugly merely because there are a few minor decayed spots in it like such men, it is all right for me to get occasionally disgusted. It is a *Many* disgust—not an essential One disgust. It helps me to appreciate the general harmony better—to realize, in fact, that general harmony *requires* such *local* break-downs or decaying spots.

When I get hungry for each meal, that is actually a local unbalance—which would have most disastrous or ugly consequences for me if I couldn't get something to eat. But it is reasonably easy to get food, just as it is reasonably easy to eliminate the ugly scientists if we like; so those little local unbalances are *on the whole* actually a pleasure to us. Even the ugly scientists will feel better after they are elimi-

nated, than they do in their present painful agnosticism and materialistic pessimism.

So if your general recognition of the beauty of the universe, or the goodness of God, or of the right intentions or sound One purpose of yourself and other men, doesn't always prevent your eyes being filled by an ugly mess, then that is a fine thing, provided you *act* somewhat towards wiping out whatever mess you see, and thereby recover your wider view.

The man who doesn't *do* something about the ugly spot, is likely to stew in his own grouch until he literally becomes a sore-head—becomes the usual radical (socialist or reactionary tory). He thinks the whole world has gone to the dogs, and some "revolution" is needed—thinks the whole world should be made over nearer the heart's desire, in considerable improvement over God's design. Obviously such a sore-head condemns himself, along with his condemnation of God—and that makes him increasingly sore.

When I was young I could stand the strain of letting those wailers weep on my shoulder, and of expressing my pained sympathy. But as I get older and weaker, I prefer to laugh, while they weep on some youth's stronger shoulder. So far as I can see, that is the best practical way to deal with our wailers—especially the intellectuals. If we all joined in, *all* weeping on each other's shoulders, naturally we should all shortly starve.

But even with a general knowledge that the universe, including ourselves, is sound; and even though we are reasonably active in wiping out bad spots, such as exact scientists; still those locally decaying structures may blind us finite individuals to the general goodness of things unless we get some help from others. We need *sound* theologians and scientists to show us explicitly the beauty and continuity of things, so that our knowledge of such basic truth will be fresh and we hence shall not be afraid. We need people who will make us laugh, or experience directly the ecstasy of grasping the One (Chap. 10). We need all sorts of

artists—genuine artists who simply are successful men,—to show us the beauty of things.

On the other hand, we usually need to avoid malcontents—the socialists and tories who are airing their grievances and viewing with alarm. Steady reading of their publications tends to make a man a whining, futile sore-head and quitter. A steady, serious reading of orthodox scientific and theological literature will have the same effect. That, of course, is why radical stuff and highbrow literature is avoided by commonsense folks. As mental food it plainly is soured—and deadly if actually taken in.

Thus the obvious fact, that there exist those various different sized natural structures, gave us as a simple truism the principle of purpose, design, harmony, beauty—or whatever you prefer to call continuity. And that principle gave us one practical solution of the problem of good and evil.

We could go on, applying just that much of sound or *inexact* physics directly to other practical human problems. But we had better drop that line temporarily, and finish in this chapter the small amount of physics we have space and interest for.

That quantitative proportionality is obviously the principle that regulates the size or “properties” of all things. The periodic table of elements is a clear example of it. For instead of there being atoms of every size in ordinary conditions here on earth, all known atoms tend to have about ninety periodic average weights—just as men tend to one average weight and elephants to another. And everywhere throughout the universe atoms tend to have a similar periodicity of “properties” (as is shown by spectra). A particular *property* is obviously a time-and-space, or finite, amount of being related to other structures: *property* is a synonym for *relationship*.

In precisely the same periodic (or finite) way, our solar system has certain internal sizes. Our crystals here on earth attain a certain size and shape—just as do trees. Instead of having a homogeneous environment in which

everything is *evenly* mixed, we have one in which various structures form, and collect to themselves, just as the sea and air keep somewhat separate—all fittingly, harmoniously, and in a One sense designedly or “usefully”.

Science mostly omits that basic knowledge of the world. So there exists no definite knowledge of the universal phenomena of periodicity, harmony, or design. Science ordinarily asserts that there are no such natural phenomena—that such facts are moonshine, or “metaphysics”.

In short, science substantially omits all of what we call humanness or humanity, or knowledge of life itself—actually scoffs at the phenomenon. *The next great advance in knowledge will be recognition and definite handling of this humanness*, or inexact periodicity. We commonsense people have already gone far in such knowledge, under various names, summing up as morality, “sense”, decency. Maybe the next generation of our official leaders will follow along with us, and help, instead of hindering. I suggest stopping the salaries of the obstructors, to help their vision.

§5

The next general phenomenon that occurs as a truism of the fact that numerous structures exist, is gravity. We saw the general mechanics of it in Chapter 22. In the last chapter (§3) we saw in ultimate detail *how* any structure puts itself into motion. That shows where the motion comes from which we needed to make gravity work.

We can now see the mechanics of gravity in ultimate detail. Let us consider any two finite structures. Their comparative “sizes” depend (on an average) upon their having each a surface zone of ether at the same average velocity. Then, regardless of all other asymmetries that may exist between the two structures, those two structures would have their *two sides that face each other* act-react with each other in a necessarily different degree from the

reactions of the *two sides furthest away from each other*. That is truistic: for the structures are *finite*. That ultimate, truistically inevitable difference in action-reaction of the facing sides from the outer sides of the two bodies, is gravity—precisely as described in the second way above (Chap. 22 §4). Of course, it is obvious that all the *other* asymmetries which do as a fact exist between the two bodies, inseparably combine themselves (nominally as “other” phenomena) *with* that final gravity asymmetry, and *can’t* be separated from gravity except in the *purely verbal* way of this paragraph.

And we can see how fast gravity travels. By the foregoing description, gravity tends to be what is *left over* of the reactions of finite bodies when all other observed reactions are named otherwise. Also, because if there is any ether circulation of *sufficient* size to be perceived by us, we call it a *structure* (i.e., name it a phenomenon different from gravity), it further truistically follows that gravity, as ordinarily considered, consists of ether vibrations or “structures” that are so excessively minute as to be near the limit of zero—as to be nearly an “absolutely solid” or rigid body. So gravity is a mostly longitudinal vibration in what is nearly an absolutely dense elastic body, and hence travels *almost* at infinite speed.

That agrees with observed fact. It also agrees with the ordinary truistic or One formula which Newton figured out:— *Velocity of longitudinal vibration* = $[\text{Stress} \div (\text{Strain} \times \text{Density of medium})]^{\frac{1}{2}}$, in which stress or gravity is finite, strain is practically zero, and hence the velocity of gravity practically infinite. If we liked, we could here join our argument to all of orthodox physics’ dynamic equations.

That, in outline, finishes gravity. It also indicates just how our basic concrete facts, which science wholly omits, join to mathematical science, completing orthodox science, and (by correcting its exactness) making it intelligible.

Relativitists say there can't be a speed greater than the velocity of light. What they mean (although they don't know they do), is that a *structure as large as our electrons* can't exist in *our* neighborhood *if* going at a greater speed than light—which is quite correct, as we implicitly see below. But there can be smaller structures—and other neighborhoods.

§6

Next, we consider electricity briefly.

In an actual whirl the ether in the ring itself not only flows circularly *around* the ring axis, but also asymmetrically flows some *along* (parallel to) the ring axis: i.e., the ring itself rotates around the *main* axis of the whirl. That flow *along* the ring axis is an electric current.

By the same naming agreement, the *flow* itself *around* the ring axis is a “molar body”—gives molar forces. So truthistically *all* the “motion” constitutes, or *is*, either “matter” or “electricity”, just as we wish to say. The “current” is flow in a *mostly-closed path*, and “magnetism” flow in all the *other* directions—the *current plus magnetism* being matter or electricity. Science hasn't definitely decided whether an “electron” *is* electricity, or is something unknown upon which electricity (a *second* mystery) resides (see footnote, Chap. 20 §1). This paragraph is the rigorous answer to that technical puzzle.

The direction of (or *along*) the ring axis is technically called the direction of “electric force”. The direction of flow *around* the ring axis (circles in a plane perpendicular to the ring axis at any point) is technically the “magnetic” direction, and such “lines of force” are magnetism. The third direction *relative to the ring* is the *radial* direction, or straight lines perpendicular to the ring axis at any point of it, extending radially away from the axis in any such perpendicular direction. This third direction is technically the “displacement” direction in Maxwell's orthodox electrical theory.

Unless you are somewhat an electrical specialist you needn't try to grasp those puzzling directions. With them I am simply going to show the mechanical (really *verbal*) trick that scientists haven't been able to work out, or "understand". But you can readily see the trick in general without bothering to follow those directions closely—although if you wish to verify the mechanics by direct reference to observed facts, you have to grasp those directions definitely (see *Universe*).

Those directions obviously are named as if *we* were *inside* that whirl, and could see *in detail* all the motion about us. Now, if that whirl were an atom, we ordinarily look at it from the *outside*—and we see a more or less spherical body, without being able to see anything but its *general* asymmetries which result from those particular *closed* or "circular" motions. In fact, an atom is so small that we haven't yet *directly* seen a single one, but simply infer an average one from seeing bunches of atoms. And in such bunches, of course the *inside* directions are even more obscured, or *unobserved* in a direct sense. (We can consider the solar system as an atom, as it *essentially* is, and *see* it from *inside*.)

So, looking at an atom from the *outside*, we do not see the closed ring, or electrical, direction as having any perceptible effect. I.e., we do *not* observe any appreciable current or "magnetic" electricity—for it flows around in an extremely small circle, almost concealing itself from even our indirect observation.

But truistically, in so far as there is a current *in* the atom (which current is a revolution of the ring—amounting to a rotation of the whole atom; and such an atom is mechanically equivalent to orthodox atoms with revolving electrons), there will be some general asymmetry of the whole whirl, which asymmetry will be a bulge (or *several* bulges) out [or in], perpendicular to its field surface at some spot. That *bulge itself* will be a "*static*" charge of electricity; and that *bulge* is what orthodox science calls an electron. It cor-

responds to a sun spot, or to a cyclone on the earth, or to the giving birth to [or combining with] a small whirl (or, *precisely*, is a *stage* of such a process—i.e., an electron is not a real, exact thing, not a *complete* small whirl, but a convenient Many part of a *continuous process*).

I.e., an electron is a vortex whirl, or an eddying, *in the field* of atoms (“atoms” themselves being orthodoxly left a mystery)—is motion of the ‘atmosphere’ or field of atoms. The rest of the atom is then *usually* orthodoxly *assumed* to be also somehow electrons. Those atmospheric vortices are usually called something else in larger structures. E.g., they are “storms” on earth, or are nebulas of various sorts astronomically. And of course, the same general description will apply to structures that are *mostly* eddies.

Further, that *direction* of the bulge (“displacement” direction) is obviously, from this *outside* point of view, *one* particular line or direction in space; i.e., it is not now, as it was in the whirl, *any radial perpendicular* to the ring axis, and therefore a direction that, *with reference to space in general*, continually changed *as* the current flowed. Or, stated otherwise, the *change in our point of view* has changed us *from* closed or circular motion, *to* nominally motion in a locally straight line that is usually called the longitudinal direction.

Similarly, the other two directions (electric and magnetic) now become nominally locally straight-line perpendiculars to that bulge direction, which two directions, called *transverse* directions, are also perpendicular to themselves. Science agrees that observed facts show that usually there are observed varying asymmetries in those transverse directions, so that the asymmetries *in effect rotate* around the bulge direction as an axis (except they do not *perceptibly* rotate in plane polarized light, and similar phenomena).

But orthodox science has in effect squabbled for about a century as to which of the two transverse directions is “magnetic” in light, and which “electrical” (those particular names are only about sixty years old). That squabble

shows that scientists themselves are confused (1) as to this change of point of view as to directions, and (2) as to the change from having a *whole atom* be electricity, to having *only a bulge* in its ether field be electricity. You can see just how the shift in point of view puzzled them, because you are now probably puzzled yourself over this change from circular directions to straight line directions—and vice versa. And that is the only thing you need to remember about these directions, unless you have to deal with electricity. I can't remember these confusing directions myself for more than a day or so unless I am using them.

Ordinarily, of course, a bunch of atoms will orient their main axes in all directions, so that *most* of those asymmetrical bulges (static electric charges or "electrons") mutually cancel each other (or else systematically cancel in crystals)—there being *no directly* perceptible "electrical" force *outside* the bunch of atoms. I.e., an ordinary body is not perceptibly "electrified". But because of the finite size of the atoms, *always* there will be *some residual longitudinal force*, which is not orthodoxly called electrical (although it *is* electrical), but is called gravity.

Also, of course any given atom can have an indefinite number of such electrical bulges (just as we can have a number of cyclones in our earth field at the same time), although eight is the maximum number we ordinarily can indirectly *perceive* for any atom. Those asymmetries are also called *chemical "affinities"*, and truistically can, and as an observed fact do, vary greatly in comparative chemical effect (or in 'molecular' effects, where they cause crystals, colloids, etc.), depending upon whether the atoms themselves (1) are more or less close to each other or far apart; or (2) are more or less disturbed or undisturbed by outside actions; and depending upon (3) the comparative sizes and distribution of the bulges on a given atom.

Occasionally a bunch of atoms, because they have certain unusual field asymmetries, will orient themselves so that their *field circulations* (in the internal circular "magnetic"

directions) will more or less add themselves together cumulatively. Then we have a natural magnet, with two poles in a locally straight-line magnetic direction. (The actual circularity of that magnetic direction is recognized by orthodox science.)

If conductors (wires) be moved through that large magnetic field, that large ether circulation or cumulated asymmetry more or less magnetically orients similarly the atoms in the wires, and the static electric bulges on the wires' atoms will (1) more or less pass from atom to atom, and (2) will more or less transmit an ether strain or "bulge" (some of both; some "ether flow", and some "ether pressure"), and an electric current flows in the wires. I.e., from our outside point of view, a current of electricity is a systematic movement of the 'ether atmospheres' or fields of atoms. Or, *our ordinary electricity is the summed flowing of the atmospheres of atoms in wires*—their atmospheres being usually replenished from burning coal (as implicitly appears in the next Section).

The same general phenomenon, *in less degree*, will happen if we move *any* body relative to another—i.e., such motion causes movement of the atmosphere of their atoms. That last sentence is the general description of *all* electric machinery—although it is not yet explicit about *waves*.

§7

Usually when we move any bunch of atoms relative to any other bunch of atoms (truistically with some ether friction), the ether bulges produced on the atoms, or the more or less actual breaking up of some of the fields of some of the atoms (the atomic winds, or storms), will be largely unsymmetrical. Easily perceptible electricity is a systematized phenomenon in which a large part of the atoms orient about in the same direction. But when the phenomenon is more unsystematic, there is much field bulging (strain or stretch), and then actual moving around of de-

tached little newborn whirls (detached electrons) in *all* directions. That is *heat*.

If we bring more or less together some atoms whose bulges have a chemical affinity for each other (i.e., atoms whose storms or 'atmospheres' tend to combine), those atoms obviously would further pull themselves together more or less vigorously ("chemically"). In doing so, they truistically knock off some of their fields (their atmospheres)—giving heat as before, but *considerable* heat in this case. That is *combustion*.

Obviously, *any* method which we might use that would push or throw atoms or parts of atoms (electrons, etc.) together, would tend to break up the atoms. If we devise a method that would break up the atom considerably, we truistically should have a large amount of heat developed. And if we picked out some atoms that would, by their breaking up, jar their neighbors into breaking up, we should have a practical way of getting considerable energy out of atoms.

Obviously, combustion consists of just that partial breaking up of atoms, making some energy available for use. No absolutely complete breaking up of an atom is possible *in a finite time*—there can be no absolute death. The theory of getting energy out of atoms is thus very simple—actually is applied every time we make a fire. We want further to find how to break up some atoms considerably and readily. That is a quantitative problem, and various solutions of it are forever discoverable.

§8

If we pick up an apple, we bring together the bunch of atoms that constitute our hand, and the bunch that constitute the apple. There are trillions of atoms in each bunch. So all the atoms that are "backing up" the comparatively few atoms on the two colliding surfaces (of the apple and our hand), add their momentum or "force" to pushing

those surface atoms together. The obvious result is that the fields of those surface atoms get comparatively *largely* distorted in every direction, and the more energetic parts (more rapid surface zones) of the whirls-eddies come rather close to each other in all directions. Obviously, each of the three components sum up about equally in the billions of surface-atom reactions; and we have a *molar phenomenon*, in which we may say the point of view is about equally "inside", and "outside".

The distinctive characteristic of molar phenomena is that they "do" more, or amount to more in quantity, than other sorts—*other things being equal*. The more energetic parts of the atoms get into direct action-reaction in them.

In other phenomena, such as electricity from our *outside* view, only the comparatively weak fields enter directly into reaction. In analogous terms of our earth, a molar phenomenon would be an earthquake, or even the moon falling on the earth; and electricity would be an ordinary circular wind storm, which we often scarcely notice. Of course, all such weaker field or "electric" reactions do then, *indirectly*, affect the more energetic parts of the structure.

We can now see that the field of our solar system acts-reacts with the fields of the other systems in our galaxy—that phenomenon being either electrical, or one of chemical affinity, just as we choose to call it. That *field* reaction chiefly supports our solar system—it, rather than ordinary gravity, determines or fixes the system's orbit in the galaxy. (Nobody has yet measured even roughly what that orbit is: I give the various probable solutions of that quantitative problem in *Universe*.)

That field reaction which supports our solar system, obviously (as a truism) makes the fields act-react on the "surfaces" of the sun and planets, producing the "storms" or "sun spots" there, thus frictionally warming up those surfaces. The sun's surface warms up more than the earth's; for the sun contains about a third of a million times more matter than the earth, and hence reacts harder with the

solar field. Then the sun's warmer surface warms the earth additionally (by waves, mostly).

The sum of all those field reactions determines, *is*, the *climate* of bodies in the solar system—controls what we call “environment” in general. And as we have seen, that environment determines or “designs” its various structures, including our individual selves. Thus the galaxies of the universe, or God, through our galaxy, and then through our solar system fields, designs or makes us, so that we “fit”—are an inseparable, harmonious *part* of God (in our finite, individual aspect), and *are* God in an ultimate, *really personal* sense.

That of course is the explicit, somewhat detailed statement of just *how* we are made of the dust of the earth. The ancient prophets or scientists who wrote the two versions of our genesis in *Genesis*, correctly judged we were made of “dust”. Modern biologists and chemists do the best they can to say *just how* those “dust” structures were, through geological ages, designed into man. Those modern scientists are about as dualistic and materialistic as those ancient prophets: both talk of an essentially different (1) “matter” and (2) God.

Both omit any statement of *what* God, and the parts of him called “dust”, is. Indeed, both seem verbally to hold “dust” *not* to be God (see *Genesis*, and Millikan's *Science and Life*). So both are at least verbally dualistic—and both are agnostic, as both leave God and dust “mysteries”.

§9

The only general sort of conventionally named phenomenon remaining is waves or vibrations.

We have seen that as the surface ether zone of any structure moves along in frictional contact with the surrounding ether, that zone pulls the outside ether somewhat along with it. I.e., the structure *tends* to move all the rest of the ether in the universe along, as a part of itself. But by the prin-

ciple of harmony of sizes, the structure can't thus unendingly expand itself. Hence its surface zone pulls some outside ether along a certain distance, and then has to turn loose. And that pulled ether then snaps back like a spring. For, from another point of view, the structures other than the one we are considering, pull that one back, as far as *they* can, in their similar effort to add ether to themselves.

That adjacent zone of ether thus *vibrates*, or is a *wave*, as long as the surface zone thus keeps moving relative to the surface zone of other structures—which is forever, in *some* degree.

Also, that adjacent zone obviously will in *its* turn make the ether next outside it similarly vibrate—be a wave,—the vibration being of course modified by the fact that other structures then have a *different* space location relative to this second layer. The wave will thus spread, or cause other waves, in all directions forever. But truistically the waves are in all cases modified by combining with other motions, etc., and sooner or later *perceptibly* “disappear” or get “absorbed”—i.e., get changed into practically a gravity pull or gravity waves.

That is wave motion—*always* with three components, although we have seen that the components may be of any relative size.

A wave amounts to what might be called the attempt of any structure to expand itself. Being prevented by surrounding structures, it pushes out that abortive ether zone through all space as a sort of ‘beginning-structure’, which we call a vibration. (So if we like, we may correctly say that a wave is an “emission” of actual “matter”.) For some distance that wave may be sufficiently energetic for us to perceive—i.e., for it to modify the structures of our bodies in certain measure (Chaps. 18 §3, 21 §4, 28). So we can thus directly “see” structures at some distance.

In a One sense, *any* structure obviously thus vibrates *all* the universe in some slight degree (e.g., gravity explicitly does). So in a One sense, *any* structure, *strictly* speak-

ing, is thus absolutely inclusive of the total universe. E.g., any man, or any atom, *completely* described, is absolutely the whole universe. *That is the infinite regress, definitely described in concrete or physics terms.*

As those waves are made by any sized structure, it follows that if we can devise means of making various sizes of waves perceptible to our senses, we can in that way observe the various sized structures that give them off.

Up to now, ways have been devised for observing waves that vary from about one-billionth of a millimeter in length, up to waves an indefinite number of miles long. A moderately coarse hair of our head is about 0.002 of an inch in diameter—500 hairs to an inch, or about 20 to a millimeter. So there would be about 50 million of those smallest waves (named Gamma waves) in a hair's breadth. Those shortest waves that are observed nowadays (except gravity) come from some small asymmetries (structures in process of forming) inside atoms—being perceptibly given off when the atoms are violently agitated by radioactive breaking up. The ordinary waves from atoms, which we call visible light, are of different lengths, around a half-million times longer than Gamma waves.

Nobody knows the length of many of the waves we hear as "static" in radio. Some of those audible grinders, clicks, and sizzles probably come from waves many miles long that are made by our cyclone wind whirls, by sun spots, and possibly by outer parts of the solar field. Thus we are beginning actually to hear indirectly the music of the spheres. The electric currents or ether motions inside and among atoms can similarly be indirectly heard as radio sounds.

CHAPTER XXV

BASIC BIOLOGY

§1

BIOLOGY is orthodoxly the part of science that deals directly with the phenomena of *living* matter (*Ency. Brit., Art. Biology*). Contradicting that, but also orthodoxly, science agnostically does not know what life is, when it exists or ceases to exist in a given "live" body, or even whether there actually is such a "mysterious factor" as "life". But, contradicting that orthodox agnosticism, "from the point of view of . . . science [as contrasted with commonsense] life is associated with matter", or life is *known* to be one side of a mysterious dualism (*Ency. Brit., Art. Life*).

Or, if a more up-to-date authority than the fourteen-year-old *Encyclopaedia* is preferred, then the biologist Kellogg says in the *World's Work*, May, 1924, that the evolutionist (Kellogg's name there for biologist) does not understand, and is not concerned with, the spirit, soul, religious faith, consciousness, love, charity of man—man being one example of life in matter. That substantially amounts to the *Encyclopaedia's* assertion of biologic agnosticism, and of contradicting gnostic dualism.

As orthodox biologists do not know what life is, or even if, and when, it exists in matter, they truistically *strictly* are unable to formulate any biology. All their "science", according to such authoritative claims or fundamental assertions, is basidy bosh and meaningless.

Further, as they then do talk about "matter", which according to them sometimes does and sometimes doesn't

contain the dualistic "mysterious factor" life or spirit, but with which factor they are not concerned anyway (Kellogg), it follows that orthodoxly biologists are *also* materialistic. Bluntly, biology or the orthodox science of life, omits life.

As we common people are directly concerned with what we call life, we can scarcely avoid noticing that scientists who deal with such human phenomena are officially flatly agnostic, and contradictorily then materialistic. Indeed, we have been so obviously damaged or offended by such inhuman doctrines of futility, and such flatly materialistic sense of values, that already some states have begun to refuse to pay salaries to have such doctrines taught to our rather defenceless children.

Scientists have scoffed and jeered at such states as being "uncivilized", bigoted, and so on. Of course, it has been extremely difficult for those states to make an official statement of the precise error the orthodox biologist makes. Their legal statements have made technical omissions, or contained actual scientific error. But we can see from the short quotations I have just made from authoritative biologists, that those states have been fundamentally right, in spite of their technical difficulties. It probably is better to have no biologists, than to have biologists who teach basic falsehood—especially if the biologists stupidly believe such falsehood themselves, and insist on drawing pay to teach it, after their error has been pointed out to them and they have not answered the objections.

It seems to me that there are a few leading biologists who are essentially not agnostics or materialists. I won't name them here. I undertook to name some in *Universe*; and as soon as various states began to stop public salaries to agnostic and materialistic biologists, a few of those I named went to the defense of their colleagues. So, although I think there are some leading biologists (and many young biologists not yet prominent) who agree with commonsense people, yet under the circumstances it is better to

let them declare for themselves whether they will side with (1) their average materialistic colleagues, or with (2) the truth—or whether (3) they will keep quiet until they see which side seems to be winning, and then hasten to get on the “band wagon”. In the third case they will probably claim that they are waiting to see what *is* truth. The adequate answer to that is that they continue to draw pay for teaching truth; and if they admittedly don’t know what fundamental truth is, they should resign, as it is not possible to teach *any* truth until fundamental truth is known.

There are two everyday forms of the basic problem which the biologists say they are incompetent to solve—and which they then contradictorily say they do solve. Those problems are:- (1) What is life?; and equivalent questions, such as, How does it originate?, Does it end?, What is growth, age, thought, etc.?; and (2) What is evolution, and how does it work?; or, in more intelligible language, If we lead a temperate, sensible life, will that improve or otherwise modify our children?

To that question about improving our children hereditarily, biologists officially answer *No*, and *We don’t know* (*Ency. Brit., Arts. Life, Biology, Evolution*)—although that materialistic-agnostic answer is so glaringly contrary to commonsense, or to our experience of cause-effect, that biologists are now giving a *third* sort of answer, by wabbling on the question.

The *orthodox* answer to the more general question, *What is evolution?*, is so confused and inconsistent that nobody can undertake to say reliably what that answer is (as is proved by *Ency. Brit., Art. Evolution*, especially p. 36). However, average biologists seem to be agreed upon this silly conclusion:- there *is* evolution, even if we do flatly disagree as to what and how it is. In short, biologists idolize the word *evolution*.

We have already seen the general answers to those questions, especially in the last chapter. But we may look at some further details that are important. As a matter of

fact, those two questions are, respectively, the biologic versions of:- (1) What is the One?, and (2) What is relationship?

§2

The article *Biology* (*Ency. Brit.*) says that science knows no link between the living and not-living—that in some cases at least “the properties of living matter distinguish it absolutely from all other kinds of things”. Thus biology at the very start (1) implicitly gives up the problem of the One and Many, and further (2) contradictorily explicitly asserts that it solves it *strictly* dualistically, by splitting the universe absolutely into living and not-living.

Over that whole orthodox base hangs a fog of doubt and futile incompetence. Practically every quotation I make from an authoritative biologist can be matched with another, usually from the same man, that flatly contradicts it. All I can do is to try to show with fair justice what ordinary biologists *usually* say, and practically adhere to or act upon.

Having failed thus to say what life is, orthodox biology then goes on in that article by shifting to Many terms, and asserting that living matter (named *protoplasm*) has these three unique (i.e., absolute or exact) characteristics:-

(1) Living matter [orthodoxly] has a *chemical composition* that “invariably” contains carbon, hydrogen, oxygen, and nitrogen in complex compounds called protein, that unites with large proportions of water to form *protoplasm*, “which has never yet been obtained except as a product of living bodies”.

(2) Living matter universally disintegrates or *wastes* by oxidation; and concomitantly reintegrates or *grows* by the “intussusception” (imbibition, intercalation, interpenetration—by *eating*, in short) of new matter. The article claims that such growth (or waste) is *essentially* different from the growth of non-living matter—such as crystals, which are said to grow by “agglutination”, or accretion to the surface.

(3) Living matter perceptibly undergoes *cyclic changes*. In the ordinary course of nature *orthodoxly* all living matter proceeds from pre-existing living matter in the cycles of birth, growth, death—which cycles non-living matter does *not* follow.

Let us consider those three orthodox essential properties of living matter.

(1) In the first place, biologists and chemists agree that they do not know the *structure* of *protoplasm*. In such a case, it obviously is pure dogma to assert that chemists have *not* made protoplasm. It is another instance of the favorite exact, or materialistic, dogma of science:- that merely because some *quantity* has not been observed definitely, therefore it has been observed, and is exactly zero. So far as I can find, all chemists agree that they can build up a number of "organic" compounds from "*inorganic*". Protoplasm, or so-called living matter, is a *quantitatively* more complex structure (*how much* more complex is not agreed upon); and the truth is that nobody actually knows whether chemists have made it or not. Further, it may be "spontaneously" forming now in many places on earth, for all anybody has actually *measured* or observed—or possibly *can* observe until biologists agree as to what quantities constitute protoplasm.

But regardless of whether chemists (or "nature") *now* make protoplasm, for biologists to assert absolute dualism between "*inorganic*" and protoplasm, is equivalent to their making the exact, dogmatic assertion that because they have so far *failed* to observe some slight quantitative changes (even when they haven't agreed as to what amount they require to see), therefore those changes have been measured, and are exactly zero. That is (1) an assertion of dualism, and then (2) a contradictory assertion of the ordinary exact-science materialism. Orthodox biology is thus definitely materialistic right at its beginning or base—and remains so, except for such times as biologists declare agnosticism.

(2) We have seen, in the mechanics of matter (Chaps. 23-4), that *all* matter grows and wastes by "*intussuscep-*

tion"—that, in fact, *no* sort of phenomenon occurs except by such giving off and combining with smaller structures—a process of "living" by eating. Even orthodox physics now holds that *all* phenomena are the result of atoms giving off, or taking in, either electrons or quanta by "*intussusception*". So even by orthodox physics, all matter has this second aspect of "life". There simply does not exist any "inorganic" process of pure "accretion".

(3) That orthodox process of giving off and taking in electrons is truistically a *cyclic* process of birth, growth, death—in a quantitative sense. We saw even more definitely in the chapters on mechanics that *all* phenomena are simply such cycles—which are *never absolute or exact*.

So by orthodox facts and physics theories, there explicitly and positively is *observed* no essential difference between living matter and non-living matter, although orthodoxly there *may* be some unobserved difference. The fuller, sound mechanics in preceding chapters show definitely that there is no such difference—that biologists are entirely wrong in dividing the universe into living and not-living—in asserting the existence of the materialistic or not-living.

All "matter" is essentially living, according to all the *explicit requirements* of the most materialistic biologists. All of their talk about "protoplasm" obviously really *means*, that *some* matter is *more active* in certain conditions than any that chemists are known to make—they don't even say *how much* more active. But that is no *essential* difference: a man who can propel himself one mile an hour isn't "*inorganic*" and *essentially* different from a man who can run ten miles an hour. The slow man may have lost his legs, and have to go by rolling—and still be a better man in important respects than the runner.

You see, these biologists have got a basically wrong idea of importance and value. They are materialists, or consider *size* or *measures* as being *essential*. They in effect make a foot-rule their God, and worship it—which is idolatry, and plain stupidity.

In short, it is rigorously proved that God or the universe, judged even by the *definite* requirements of the most materialistic biologists, is living, or a "person". The fact that all matter is personal, or alive in the sense of being conscious, is simply a truism of the existence of relationship, and has been seen throughout this book. But detailed proof of it will be given in the chapters on psychology (28-30).

So when the authoritative biologist Kellogg asserts in effect that the evolutionist or biologist is not concerned with religion [or God], or with the conscience of men, it seems to me that the most merciful judgment that begins to be reasonably just, is that (1) he is an ignorant fool in his own specialty, and that (2) it is dangerous to the welfare of the race to accord much credit or prestige to such scientists. Even the *Encyclopaedia Britannica* (Art. *Biology*, written in part by the Darwinian biologist Huxley, who invented the word *agnosticism*), vague and mistaken and materialistic as it is, flatly contradicts Kellogg's current biologic materialism by saying that biology *is* concerned in *some* way with man's mental and social aspects.

§3

It is probably already obvious that biologists' real difficulty here is that they are ignorant of logic or fundamental principles, and hence neither recognize that *life* in their usual sense is a relationship word, nor know how to handle such relationship terms.

As we have seen in various aspects throughout this book, *life* is usually a relationship name—simply a name asserting the general action-reaction of the universe or God. The commonsense man has for centuries used *life* definitely in that relationship sense.

And the commonsense man also intuitively uses *life* correctly in a Many sense, as meaning *a certain degree* of activity. E.g., the dictionary (Webster's *Unabridged*) gives chiefly that everyday Many sense. Its definitions do not

make any of the biologists' absolute dualisms, but substantially say we use the word for a certain *amount* of activity.

And of course, *life* may be used (as can most nouns) in a One sense. Also, *life* is often a "factor", with some vagueness as to whether it is mostly Many, or mostly relationship.

In short, as proved by the dictionary, when the commonsense man uses everyday words like *life* in the concrete or Many sense, he correctly attaches a sense of *quantitative measurement* to them, and clearly distinguishes it from the other two senses. If you will notice, you can observe that nearly all our everyday *Many* words clearly carry a meaning of *quantitative* measure or judgment with them. The commonsense man measures, observes, estimates, all the time, and in his *Many* words rather definitely expresses such measures. We shall see repeated instances of that hereafter.

But on the contrary, scientists, who are continually dining into our ears how important it is to measure carefully, and how *they* always do it, and how contemptible our everyday ignorance and carelessness about "exact facts" is—those scientists usually *act* in a precisely opposite way. They drop our everyday rough quantitative meanings, and try to make *Many* words into exact, absolute, eternally One words—specifically, into absolute, *unmeasurable* or infinite dualisms.

We with sound commonsense take *life* to mean, in everyday affairs, a certain finite quantity of activity. Biologists come along, and promptly try to make that finite *life* into some sort of absolute One, or *qualitative* affair, or *exact* abstraction, *before they begin to measure* it. The infinite can't be measured. So naturally those scientists get into a mess. Their whole method of procedure with *life*, and nearly all such words, is silly—and flatly contradicts their talk about measuring.

As a general, convincing proof that scientists aren't nearly so observing, or 'measuring', as is the commonsense man,

we can notice that in this book up to now I have talked about conventional scientific subjects which are supposed to be *quantitative*, but in spite of that I didn't need to notice *quantities* much. Most of my discussion of such ordinary science has been *truisms*—has been One principles, and not directly quantitative, in spite of scientific claims that all such science is necessarily quantitative. And now, as soon as I try to talk in everyday Many terms—try to begin to *apply* that science in familiar human affairs,—orthodox science blocks the way. It insists upon practically ignoring *quantities*, although we must now have them for use. Even when it does verbally mention a quantity, it claims it is exact, absolute—is a One, or infinite, and hence not *really* quantitative.

So to be sensible and intelligent instead of “scientific”, we conclude that anything is “alive” in a *Many* sense when it exhibits a *certain amount* of apparently designed or proposed action-reaction with its environment. We saw (Chap. 24 §3) that *all* action-reaction ultimately is “designed” or “rational”. *How much* that “certain amount” of required action-reaction is, or how clear the purpose of it must be, has not been agreed upon, *except* by rough commonsense (called “experience”, in such cases).

We don't definitely agree as to the precise point at which a thing is alive—any more than we agree as to the precise point at which we cease to be “well” and become “ill”, or morally cease to be “good” and become “bad”. We do agree that all such important quantities are not exactly measurable, and are arbitrary, or a matter of “taste” or judgment or “experience”—that there is no exact science.

But scientists—biologists, here—are inhuman, materialistic, have no such commonsense “taste”, or orthodoxy can't be “well-bred” and agree workably well on such arbitrary quantities. They autocratically (i.e., dualistically) insist that there is absolutely either “life” or “no life”. The climax of their comedy is that they insist on that vulgar whole-hog-or-none, bolshevik, radicalism while actually ad-

mitting that, as a fact, they can't tell at what point life "begins" or "ends" in a given "living thing" (*Ency. Brit.*, Art. *Life*).

Indeed, such dualism about life is so plainly silly that even the biologists themselves were dimly conscious of its stupidity, and troubled. So some years ago they tacitly stopped talking about "life", or what they name *vitalism*—quietly quit the problem in disgust,—and (somewhat unconsciously to themselves) shifted the *same* question over to the more or less new name *evolution*.

CHAPTER XXVI

EVOLUTION

§1

THE biologists' difficulty about evolution is (1) that they indiscriminately use it as a One word, as a Many word, and as a relationship word; (2) don't know that they do; and (3) are ignorant of such fundamental principles or logic, anyway. (Those three assertions about the character of biologists' difficulty are rather obviously correct; but for specific proof of them, see, e.g., *Ency. Brit.*, Art. *Evolution*; the biologist Gruenberg's *Evolution Today*, *Am. Rev.*, Sept.-Oct., 1923, where such mixing is obvious; or see my *Universe*, which points it out.)

So evolutionists irritably squabble about evolution, instead of working out the basic principles or logic. In one breath they will tell us that biologists agree on evolution—and in the next, querulously explode into the contradiction that of course nobody can understand about evolution or really prove it.

In the usual meaning of the common man, *evolution* is obviously a *relationship* word. It means continuity, or cause-effect—means that the whole universe is related together, as, or into, God.

In a *One* sense, men, and monkeys, and mud are all inseparable parts of God, and are all related—finally as being absolutely identical. So *evolution*, as a One word, simply means the ultimate unity or One. *Evolution* is rarely used as a strict One word.

God or the universe, as an absolute truism, made man out of a *part* of himself. So obviously, *evolution* in a

Many sense simply is a *quantitative* statement or mechanics—means the time-space action-reaction of Many parts in and as the One or God, or amounts to *describing* as extensively and as accurately as we can, or need to, the structures of the universe. A *strict* Many sense of *evolution* is rare. When the word *evolution* is occasionally used with a Many sense, the word tends to take on *some* mixture of relationship, and be a “factor”.

In a sound Many sense, God made man out of (1) mud, according to *Genesis*, and out of (2) some primitive monkey, according to biology. In both cases, the relationship, named evolution, obviously holds. (I use popular, and perhaps not precise technical terms: e.g., “dust”, or dry mud, is the Protestant technical theological term, although strictly man is mostly water, and the Catholic Bible says “slime”.)

Genesis does not give details of *how* God or the universe made man out of mud. The probable Many fact is that, in *broad* detail, some billions of years ago mobile or “living” (i.e., sufficiently active) colloids (jellies or slime) were designed or purposed by God out of the mud of earth (by a detailed method outlined in Chap. 24)—which agrees with *Genesis* (unless *Genesis* be considered dualistic, as in last paragraph of Chap. 24 §8: if interpreted dualistically, then *Genesis* is absolutely wrong). And then, after the passage of some billions of years of *further* designing or action-reaction, primitive monkeys grew out of that “life”. After possibly a quarter-billion more years of designing, present-day men were made.

If it pleases us to word it so, then as a vague and arbitrary Many fact, man *was* made by God out of mud. It is just as arbitrarily true that he was made out of primitive monkeys—whatever they might be. Nobody actually knows the Many details very definitely. Those details are past *history*—quantitative facts that are with difficulty rediscoverable or ‘measured’. It probably would be more accurate, as Many or historical facts, to be more general, and say that God made man out of the stars (i.e., parts of the

stars). And stars are perhaps more emotionally agreeable than either the slime of *Genesis* or the monkeys of biology. Or, we can be even more general, and more accurate, if we say God made man out of spirit. When we really know logic we do not *have to* tie ourselves down to such narrow things as mud or monkeys. Only narrow-minded or materialistic theologians and scientists need squabble over such material words.

It obviously tends to be materialistic, for us really to worry over just what Many part of himself God did use in making man. The essential, really religious or One, truth is, that God or the universe *made man*, and man therefore essentially *is* God.

And *evolution* is a relationship word that *names* that ultimate identity of God and man—and also of mud, stars, and everything else.

In short, the word *evolution*, consistently interpreted, is obviously simply the *modern* way of saying we are children of God, or are all One with the Father. If you are disgusted with the perversions the materialists have made of the word *evolution*, you will plainly be quite correct if you use those older phrases or the even more direct synonym, “kingdom of God”. Also, your preference for the older synonyms will usefully hint to biologists your disgust with their materialism.

So obviously, for the Fundamentalists or literal theologians to hold it essential that we believe man was made according to the mechanical details in *Genesis*, is just as materialistic as it is for the Modernists and scientists to hold it essential that we believe *their* mechanics or details. Also, theologians usually interpret *Genesis* as meaning that God is supernatural, or absolutely separate from the universe (a first logical premise)—and that is dualism, and wrong in another way.

It is not essential that we believe either the mud or the monkey mechanics. The essential is that we *know* man *is* God.

However, as law and custom forbid the teaching of the mud mechanics in our tax-supported schools, it obviously is right and just that the monkey mechanics should not be taught as *essential truth*, even if the scientists erroneously imagine that it is essential truth. *But*, such mechanics is *not* a principle, or essential. It is *Many* facts, probably correct.

Orthodox biologists do hold that the monkey mechanics is *essential* or a principle. The *Encyclopaedia Britannica* (Art. *Evolution*, 22) defines evolution as being natural history "expressed in physical terms as a mechanical process". That article implicitly wabbles, and later by implication confusedly gives *evolution* a One meaning, and also a relationship meaning. But *explicitly* and essentially, evolution to a biologist is definitely an exact-science or materialistic affair—as the article goes on reiterating in several ways. The article repeatedly declares that evolution really is such a material *growth* or *development*—declares that "mechanical process" means material development. We have heard Kellogg denying that evolution has anything to do with spirit or mind.

§2

Millikan substantially formulates that materialistic "development" view of evolution in his *Joint Statement* mentioned before, among the signers of which are six leading biologists (using the term "biologist" in a broad sense) :- Osborn, Conklin, Angell (psychologist), Coulter, Welch (pathologist), and Merriam. He doesn't use the word *evolution* in that *Joint Statement*, apparently thus admitting that it is becoming an offensive, spoiled word. But he uses the word in his addresses connected with the *Statement* (reprinted with the *Statement in Science and Life*).

Incidentally, Millikan says in effect (*Sc. and Life*, 76) that those who object to what he means by evolution haven't the remotest conception of what "they are condemning, nor

the slightest interest in an objective study of the evidence", but are "men whose decisions have been formed, as are all decisions in the jungle, by instinct, by impulse, by inherited loves and hates, instead of by reason. Such people may be amiable and lovable, just as is any house dog, but they are a menace to democracy and to civilization because ignorance and the designing men who fatten upon it control their votes".

In short, Millikan says that those who disagree with him are savages, are like dogs, and are totally ignorant of this subject at least. Then he says (p. 85) that there are in the field of religion "a group of blind leaders of the blind, men who still follow the method of the jungle and are still imbued with the spirit of prejudice, preconception and intolerance".

Millikan re-published all that in *Science and Life* several months after I had presented to him in three ways the proof I have given in this book of the wrongness of it—especially of his exact science and equivalent materialistic-agnostic "evolution". One way consisted of my publishing a summary of my objections (*American Rev.*, March-April, 1924). Also, probably thirty or forty other prominent scientists, including some of the signers of his *Joint Statement*, were made cognizant of those circumstances and proof; and so far as I know none of them has done, or intends to do, anything about it.

Thus it follows that representative leading scientists join with Millikan (as quoted above) in holding that I have not the remotest conception of what I am condemning in this book, have not made the slightest study of the evidence, that I act like a jungle beast, am like a dog, am a menace to democracy and civilization, lend myself as a responsible accomplice to moral and civic crookedness, am blind, prejudiced, unable to overcome a preconception, and intolerant. And I am in effect called all that, even though Millikan has advanced no proof or evidence that I am wrong. Quite to the contrary, he finally wrote me publicly (on

March 7, 1924—the preface to his *Sc. and Life* is dated May 3, 1924), stating explicitly that he would agree with me that there can be no such thing as exact science.

And by direct implication, all of us common people, whose basic principles I definitely state in this book, are called those names by representative scientists, who have showed that they have no present intention of withdrawing them.

And we are called those names in the absence, so far as I can find, of any effort on their part to prove that our objections to their materialism and agnosticism are not right. They merely assert, by tacitly accepting Millikan's remarks, that our objections are wrong. The rather obvious general fact of course is, that scientists have a thinly concealed contempt for us average men. I have merely cited an instance of it. Indeed, the American Association of University Professors recently gave a report to the newspapers on this very subject of our objections to their evolution (*Boston Transcript*, Jan. 15, 1925), which stated at length that we common people aren't competent to express an opinion on such lofty subjects—that only professors are.

So I should like to call attention to two facts about this book:-

(1) In every case where our commonsense views conflict with orthodox science, I have at least tried to give definite proof, *both logical and* evidential, of the correctness of our views. I may be badly mistaken in judging some of the *Many evidence*, and may even logically wobble on a few truisms. But at least I did try to give proof which any normal man could verify directly for himself, without relying on my assertions, or the assertions in any book.

(2) And in no single instance do I attribute any wrong *motives* to scientists. I.e., I do not accuse any scientists of being somehow deliberately crooked, or of being intentionally prejudiced, or of having the moral status of a dog or jungle inhabitant. (I sometimes quote their *own words*

to that effect—but show that they probably exaggerate their own deficiency.) The sum total of my accusation against intellectuals is that most of them are ignorant, usually to the point of incompetency and often to the point of foolishness or borderline insanity, and that as a result their morals are often extremely bad from *our point of view*, but not intentionally so from *their point of view*. I undertake to *prove in considerable detail* that accusation I bring against them of ignorance. In no case do I accuse them of being voluntarily a menace—although they are dangerous to our welfare if we believe their false doctrines.

Finally, the “worst” specific action I recommend against them, is that we stop paying serious attention to them, warn our children against the danger of believing them, and stop paying their salaries and endowments out of *our* pockets, *until* such time as *they* either stop teaching the materialism and agnosticism which we believe is false, or else convincingly *prove* to us that those doctrines are correct. They are of course at *liberty* to teach their dogmatic falsehoods if they wish—but at *their own expense*. They aristocratically or dualistically assume that because they are *superior* to us, therefore they are *privileged* to draw salaries from us to teach what *we* value at less than nothing. Any normal child who is a good American has better sense than to believe such divine-right-of-kings-or-professors (Chap. 17 §2).

At present we do not believe their doctrines. Further, for nearly fifteen years I courteously and friendly submitted to them a definite and explicit disproof of those doctrines; and not once did they even *try* to rebut such proof. Invariably, those who don't accept the proof act in one of these three ways:— (1) they ignore the proof; (2) they call names, as Millikan has been quoted as doing; or (3) they say, “Hush, Darling”.

That recommended specific action (of letting the scientists finance their errors), obviously is not intolerance on our part *in any Many sense*. It gives them ample opportunity to examine the evidence and correct their errors if they

like. But if they do not wish to, or if they can't (usually, they have badly spoiled their minds, and simply can't), the extremest action against them is to protect our children from them, and stop paying them to propagate their error. When Millikan, in the typical scientific way, talks of such mild action as being wicked, he plainly shows that such action is needed.

I submit Millikan's and his colleagues' own statement of their case and my statement of the case, to you, for you to judge. The intellectuals have repeatedly told me in one way or another that I am unfair and am not sufficiently tolerant and patient. You can judge for yourself.

I may add the pertinent fact that for about two years before I started this book I was telling various intellectuals that if they were unable to see the soundness of my argument, or wouldn't try to refute it, I should be compelled to lay the case before people in general for their final decision and action. The intellectuals hooted and scoffed at such an idea—asserting that I either was crazy, or was trying to make a very poor joke. That again shows their contempt for us common people—although it is fashionable for most of them to *say* how much they love us and believe in democracy.

The report mentioned before, which our college professors' association gave the newspapers, says flatly (*Transcript*, Jan. 15, 1925), that it is their principle that questions in science or any other field of learning should not be decided by "popular vote", but by themselves as experts. They hold it is "unscientific" and "un-American" to dispute that alleged principle.

Such doctrine glaringly asserts the *essential* superiority of a ruling or autocratic class—asserts dualism, or the divine right of kings (the kings here being professors). The historical fact is that always the people have been forced to kick out such swell-headed kings, in order to get rid of their exaggerations or excesses and selfish grabbing of privileges. Americanism essentially is, that the majority

of the people do have the currently deciding vote on every question involving any act—and that is both Constitutional and the sound equivalent of the natural law of action-reaction. These professors got so excited about our objecting to materialistic evolution that they incautiously truthfully expressed their actual contempt for us and our commonsense.

The professors' report further asserts that "teachers and investigators have proven themselves to be the first to discover, and to rectify" any errors they may make, "without the assistance of . . . meddling from uninformed outsiders". The word "*uninformed*" is a weasel word (begs the question), and the whole statement is contemptuous of us. I think it is rather obvious that the fact is that intellectuals usually can't even *see* their basic errors when an outsider like me points them out: much evidence of that fact is given in this book. And as a further fact, even when a few do see such errors, usually they don't do anything effective towards correcting them. Also, all historical facts I can find further show that the professors' claim is false. The truth is that experts always are correcting their own *minor* errors, and continually make more accurate and full our knowledge of details. But as soon as some important, or essential, step in knowledge is to be taken, the specialists then constitute the greatest stumbling block.

Referring to Millikan's assertion that we are intolerant, I am tolerant of intellectuals in a Many sense. I see that they mean well, although they are mistaken. But in a *One* sense, I am absolutely intolerant of the intellectuals' fundamental errors, and won't under any circumstances stand for such error in any way at any time.

However, I do not delude myself that any trivial, befuddled scientist, as an individual or Many thing, is worth getting much disturbed about.

The most painful circumstance connected with my fifteen-year effort to get scientists to stop muddling up our fine world, is that no one of the wrong scientists as an individual

has ever amounted to enough as a man to give me something perceptible *to* attack. That has been disappointing. It is not possible to fight substantially nothing. So I have never been able actually to attack one of them. I merely have to object to their silly ideas. And even their ideas are not strictly ideas, but are merely wordy absence of any sense or idea. All of that is an explicit statement of "Father, forgive them, for they know not what they do".

I get to laughing at scientists—and too much laughter is as bad as too little. I can't write this book and put a genuine, deep-dyed villain in it, and thus make it interesting to you. For practical purposes of making this book entertaining, the gravest failure of these intellectuals is that they are not villains by the wildest stretch of imagination—except in the general sense that ignorance is sin. They rank high as sinners in that negative, or quitters' way. They are just agnostics or incompetents—and that is so disappointing. It is like hitting something that looks like a man, and having it turn out to be a bubble. That unavoidably makes the book disappointing to you. You miss seeing a real fight.

§3

So essentially, as shown by my quotations from the *Encyclopaedia*, and by Millikan's *Joint Statement* that was signed by some of the most prominent biologists, *evolution* means to the average scientist a material growth or development—an *increase in quantity*. My several dictionaries indicate that such is the usual scientific meaning of the word.

Indeed, that *Joint Statement* substantially declares that God himself is an *increasing* or "evolving" affair, in these words:- "It is a sublime conception of God which is furnished by science . . . when it represents him as revealing himself . . . in the development of the earth . . . and in the age-long inbreathing of life into its constituent matter, culminating in man". Millikan holds that

God is an "increasing purpose" (*Science*, Oct. 19, 1923, 297)—is implicitly something incomplete, imperfect; a Many *quantity* of some sort. I published emphatic objections to such materialism, that applied even to God. Millikan omits the passage from *Science and Life*—but fails to omit various equivalent passages.

Therefore, when the average scientist claims to be an evolutionist, he fundamentally declares the object of life, the highest good, the aim of his work, all real value or happiness, or success, consists of getting a bigger and bigger measurable pile of things. In short, he basically holds (even though he verbally superficially denies it) that size is success—is the "highest evolution". The man who gets the biggest pile of gold, or who gets fattest, or writes the most wordy book, or manages to travel fastest—in general, the grabber of material quantity, or the profiteer—is, according to such evolutionists, the successful man.

Such "evolutionists" have actually made God good by making him "increase". They obviously idolize a foot-rule.

That is why the commonsense man does not care for orthodox "evolution". It glaringly is materialism in the most offensive, direct, and practical form:- holds up profiteering or increase in size, as being success and happiness. It doesn't describe itself in those clear, blunt terms, of course. Most errors and falsehoods are dressed up in nice words.

Any sensible man knows that it promotes happiness to have as great a quantity of material goods *as he can agreeably use*. But he knows further that there is always an opposite, balancing side to material gains:- If (1) we wear out ourselves (and hence others) too much in getting a certain quantity, or if (2) we are unable to use comfortably or harmoniously the quantity obtained, then that excess of quantity is both a cause and a symbol of some degree of failure. Our scientists, in their usual radical way, have taken only half the truth for the whole truth. They make

an idol of growth, size, foot-rule; of "evolution" in the sense of up, up, up.

I am glad to say that there are some authoritative scientists who are not such fools. Not all scientists hold that evolution means "development", or an insane jazz of up, up, up. Some of them recognize that there is a One, or universe, or God, who is the same yesterday, today, and forever, and is not, as a One, subject to such "increase". Some scientists recognize that there are eternal principles, changeless and absolute and infinite, which are absolutely provable, and do not go in and out of fashion like hypotheses. But even those scientists make no public objection to the vicious dogma of their materialistic "evolutionary" colleagues.

One psychological reason for scientists' believing that the world, including God, goes up, up, up, in quantity, is that they are intuitively trying to escape from the equally silly, opposite physics law:- that everything is going down, down, down. They are trying to forget that horrid skeleton in the closet, that the world eternally runs down.

Nearly all scientists accept that physics law that temperature, or structural potential, *always* runs down, so that finally the universe will be an absolutely dead pile of material. Or, that law says God is dying. It also necessarily implies the fundamental theological dualism that the universe was started by something supernatural at some *finite* time in the past.

Scientists get that silly physics law as a truistic result of asserting "exactness", thus:- If an electron is exact or absolute, truistically it can't give birth to a new, *more* active structure. It can't even combine with another electron to rejuvenate itself—elevate its potential or "temperature". So in orthodox theory all the "exact" electrons or atoms just batter themselves around, gradually all *averaging* their motion, and by some orthodox hocus-pocus *losing* motion by *immaterial* radiation (whatever that may be), until the world is absolutely dead—or its temperature decreased to zero, or its entropy increased to infinity.

Orthodox evolution obviously is a verbal contradiction of that physics bosh. By evolution the universe forever runs up—and not down. Millikan and his colleagues seem to find no difficulty in simultaneously “believing” those two opposite basic doctrines, even after the infinite discrepancy of the two is called to their attention. That is direct evidence that the scientific mind is seriously defective.

Obviously, the truth is that all Many structures sometimes (1) grow or increase materially; and sometimes (2) decrease (as we saw in Chaps. 23-5). A given structure can do both at the same time—grow in one part of itself, while *another* part “runs down”.

In an *exact* or One sense, each man *is* God, and is timeless, or is eternal and designs himself. We come to immortality, which is neither “up” nor “down”, in Chapter 32. *Truistically, scientific evolution “up”, and the physics law “down”, contradict any sort of immortality.*

The obvious biologic or Many facts are that *all* structures act-react, and part of that harmonious mechanical process is man in a Many sense. Sometimes the “direction” of material quantities is up, and sometimes down. In sum total the directions cancel—there is no essential dualism. As an obvious truism, it is impossible for that direction to be *always* the *same* direction. Sound logic is circular: the universe is a *closed* continuity, a One.

That finishes the direct essentials of evolution. The chief technical details of “evolution” in the sense of Darwinism, are given in a footnote at the end of the next chapter.

CHAPTER XXVII

HEREDITY

§1

ANOTHER reason biologists have degenerated into a materialistic up, up, up view, is that most of them have been getting the logic, and hence many of the facts, of *inheritance* wrong, by asserting that there is *no* inheritance of acquired characteristics.

In living—in our action-reaction with the environment—we change in various ways. I.e., we truistically “acquire” parts that are more or less “new” in a *Many* sense [including the “opposite” direction of “losing” parts]—thus keeping in harmony with the environment. Those changes are “acquired characteristics”. We are not born with such “parts” in any perceptible degree, and hence do not perceptibly “inherit” them. They are acquired or “new” in that *Many* sense. Of course, there is absolutely no such distinction as new *vs.* old, “acquired” *vs.* “inherited”, in a *One* sense, as *time* does not apply.

Nearly always newborn babies of the *next* generation do not *perceptibly*, or as a *definitely* measurable fact, have those “acquired” changes or “parts”. Or, if they do, they naturally tend to have them sink below perceptibility (“lose” them) later, *unless* the changes in environment that originally caused the changes in their parents, still largely persist. Hence, nearly all biologists nowadays assert that those usually accepted facts prove that there is absolutely no inheritance of acquired characteristics. A few now deny that orthodox doctrine—and many are wabbling so much on it that it is not possible to tell which side they

hold, if any. In short, as usual, whatever scientists *can't definitely measure*, they assert has been measured, and is exactly zero—in this case, zero inheritance of acquired characters. It is materialism again.

That orthodox principle (that no acquired characters are inherited) was elaborated by Weismann into the accepted fairy tale that the germ material of new generations was *absolutely isolated* in the body, so that *no* outside action or cause could affect it. Truistically with that absolute isolation, the germ material was alleged to pass on from generation to generation, with no acquired characteristic—and naturally, no possibility of getting one. When it was observed that new generations did show some perceptible modification, it was held that those new characteristics were “latent”—i.e., *eternally* existed before, in that isolated germ material, *but were imperceptible*.

It thus truistically orthodoxly followed (1) that there was, and could be, no action-reaction or relationship between the “exact” or absolutely isolated germ stuff and its environment; (2) that the germ plasm *itself* must have existed absolutely forever (for an infinite time—before there were any men, or any earth), as an absolute One; and (3) that finally there was no way whatever for us to modify it, or even to anticipate its course. I.e., if the germ stuff of the most able man was originally fated or predestined (by utterly unknown and miraculous causes) to acquire degenerate criminality in 1990, then he *would* have just such a criminal son then, without sense or reason.

Naturally the biologists don't state their silly no-acquired-characteristics so harshly and clearly as I do. They dress up that *Alice in Wonderland* in ponderous technical words, calling it “phylogenetic limitation of variation”, and “bathmism”, and worse things, until they get lost in their own clouds of words (e.g., in *Ency. Brit.*, Art. *Evolution*, 36).

Then Professor Bateson, a leader in teaching that rubbish, concludes, in the address that set Bryan and the Fun-

damentalists off:- "As to the origin of species we have no clear answer to give [i.e., species come in that isolated germ stuff, miraculously without action-reaction, out of a mysterious past]. Faith has given place to agnosticism . . . [The undue specialization in biology] already imperils the work, I may say the sanity, of [biologists]". But Bateson finally concludes, flatly contrary to that:- "Our faith in evolution remains unshaken" (*Science*, June 16, 1922, 642-3).

I.e., although biologists rather impress themselves as being insane, they give notice through Bateson that they have unshaken "faith" in that insanity. Bryan plainly was right in objecting to trusting our children to such border-line lunatics. I am glad to say, however, that two or three biologists publicly objected to Bateson's views. But they quieted down, and Bateson was received back to academic bosoms, retaining high authority and respectability as a biologist.

§2

I think it is obvious without my repeating the details, that in *heredity* biologists are simply again struggling with the problem of the One and Many. In order to be "exact", they materialistically deny that germ stuff has changes they can't measure. And some of the few biologists who are dropping the orthodox view which even Bateson sees is practically insane, still hold weird materialistic versions of the One and Many.

The obvious truth about the inheritance of characteristics is that the environment observably changes, and hence *truis- tically* does modify germ plasm *in some degree* all the time, and such acquired characteristics *truistically* are inherited.

The only question is one of *degree*—of how much. The *principle* or essential is merely truism, which an intelligent child can understand. And the measured or Many fact

seems to me to be (it is much disputed), that usually the degree of changed inheritance is almost or quite imperceptibly small. But that direct changeableness, which keeps all things in harmony with their neighbors, even if it often does not amount to a definitely measurable Many change, is real evolution—a *relationship*: a truism or synonym of action-reaction.

So if we display enough good will and ability or purpose to keep ourselves in harmony with the environment—keep balanced, temperate, or sane,—inevitably our children will inherit increased ability to be successful or happy in their environment.

This whole book shows in outline what such balance or temperance is. But the actual achievement of such balance is an unending quantitative problem, personal to each of us—as is the question of *how much* our children are improved by our efforts. Proud parents may over-estimate the improvement in their children. But it is better to make that poor Many guess, than to be an inhuman biologist who dogmatically asserts the absolute pessimism that we can cause no improvement. You would further improve your children if you kept them away from that biologic lunatic.¹

¹ In this book on fundamentals I have to omit nearly all observed facts about evolution and heredity—all the general history of mankind, starting from a nebula and electrons. If you want such facts, the only good statement of them I know of, is given in a course on evolution, in terms of every "science" and summing socially or morally, written mostly by William Patten, head biologist in Dartmouth. (It may be bought from him, Hanover, N. H., in several paper-back pamphlets, \$2.50.) The course is given to freshmen, to show them where they fit with all the general *probable* facts known to man, and is summarized into four or five remarkably good charts and pictures. One part of the course is orthodox physical science (not written by Patten); but its orthodox dualism and materialism is kept cautiously in the background. Patten's own statement of *principles* is broadly sound; so his facts are probably pretty reliable.

But there may be some readers who would like to know the nature and solution of the quarrels biologists are having over "evolution" or "Darwinism". So I here end my brief chapters on biology by discussing that in this mildly technical footnote.

A leading biologist, Henry Fairfield Osborn (who helped Millikan prepare his *Joint Statement*, and who has been especially active in trying to criticise legislators who object to "evolution" for children), asserts in his *Impressions of Great Naturalists* (p. 64), that "in three points it may be said that Darwin's teachings are not accepted today" by biologists. I shall give Osborn's orthodox "points", adding in each case the solution:-

(1) He says that Darwin believed in inheritance of acquired characters, and that such belief "has been set aside for Weismann's law".

The solution of that difference of opinion has been given in this chapter:- Darwin

is right in principle; the Weismann "law" is a stupid attempt to assert that biologically a cause is without an effect—and it would ruin anybody, especially a child, really to believe such vicious nonsense.

It may be noted that Osborn asserts with flat and sweeping generality, in a book dated and finally copyrighted in 1924, that Darwin's belief "has been set aside". The fact is, a number of prominent biologists have been, and are, dropping Weismann's nonsense. E.g., Jennings, whom Osborn in the same book approves as competent, substantially agrees with Darwin, and with this chapter, on inheritance (*Sci. Mo.*, Sept., 1924)—although Jennings is there verbally evasive, in an apparent attempt to save the faces of biologists or to avoid controversy. Osborn's contradiction of such facts indicates his own incompetence or unreliability, or both.

(2) Osborn says that Darwin's "prevailing belief" that biological changes are slow and continuous, is now positively proved to be correct in some cases; and that Darwin's "less strongly entertained" belief that many changes are "discontinuous or mutative", is also now proved correct and is held by leaders like Bateson and De Vries. (As I mentioned, Osborn asserts that Darwin's teaching on three points is *not* accepted by modern biologists. But Osborn's second point, which I have just quoted, obviously says that Darwin *is* accepted essentially on the point. Osborn merely contradicts what he first said—in less than a page.)

Obviously, *if*, as Osborn alleges, Darwin did believe that some changes were really "continuous", and some really "discontinuous" or exact or absolutely sharp or mutative, then Darwin fundamentally contradicted himself—just as do most modern biologists who, like Osborn, assert both.

According to my memory of what little I read of Darwin ten years or more ago, he steadily insisted (as well as he knew how to express it), that there were *no* exact biologic species or absolutely discontinuous changes or "mutations"—insisted that such was the very base of his teaching. I.e., according to my memory, Darwin did not believe in the exact biologic science of Bateson, De Vries, and other extreme Mendelians. Osborn says flatly that Darwin did. If you are interested in the unessential historical question of what Darwin did hold on this point, you of course can read Darwin's volumes and find out definitely: I can't find anything in a hasty glance at Darwin's later work to support Osborn's assertion. Also, Darwin's work always bores me so insufferably that I have never managed to finish a single book of his. For I am not much interested in the huge masses of rambling, disjointed details he piles up; and his half-conscious failure to unify them positively (see below), pains me as much as it does him. So I have no intention of reading all his books to find out if he anywhere fairly justifies Osborn's assertion to the effect that he essentially contradicts himself. My judgment, however, is that Osborn substantially misstates Darwin's basic teaching.

The only enjoyable thing to me in Darwin's stuff, is that he is a responsible, honest man, who is working courageously and mightily to show that the universe *is* continuous or God—that there are *not* any exact species. It is a pity that modern biologists do not emulate his carefulness and sense of responsibility; and can't see that he was at least trying to state and prove continuity. Although I can't comfortably read his stuff, like the common man I can at least understand and accept what he was trying to say and show—and the average biologist can't, as is shown by Osborn's assertion.

Of course, the truth is that there are no real discontinuities. The exact or discontinuous views of Bateson, De Vries, and other extreme Mendelians, and the similar views of the Weismannians, are wrong—as is shown by all this book. The truth is that some biologic changes are *quantitatively* greater than others, and often in some apparent mutation the continuity of the changes may not be *directly* perceptible. So far as I can find, Darwin's teaching was basically to that effect:—that there are no exact species, or no absolute mutations or exact unit or Mendelian characters.

(3) Finally, Osborn says (in a vague way, which I translate clearly), that Darwin (a) believed that biologic changes occur by "chance" or accident, or for *no* reason or cause; and (b) then believed that evolution, or "direction" of progress, or purpose, or "adaptation", results from the environment's directly or indirectly *destroying* every living being that "chanced" to get a change that didn't fit or wasn't useful. Osborn says flatly that modern biologists differ from Darwin by

holding (a) that there is some *unknown* law, rather than chance, determining those changes, and (b) that there is no proof by observation or experiment that "selection" occurs.

We consider the first half of this third point:- (a) changes or variations by "chance".

On his next page (66), Osborn again contradicts himself, by denying that Darwin held that variations result from chance—saying that Darwin himself states that he uses the word *chance* as a synonym for *ignorance*, thus meaning by it merely that he didn't know *how* variations arose—how characters or structures are "created". I may add, as further showing the unreliability of Osborn's assertions, that as far as I can find Darwin steadily holds (e.g., explicitly near the beginning of Chap. II, *Descent of Man*), that variations result in some unknown way from the interaction of things, including living things. Darwin thus plainly asserts that there *is* some unknown law—some cause—of variations.

The truth obviously is that variations *are* caused lawfully—are in a chain of action-reaction. Darwin and modern biologists do not know how. We have seen in general in this Part II that the "how" ultimately is given by the principle of incommensurability, or harmonic periodicity; and specifically, that the environment (the One or God) designs or produces any given structure, especially by the sense of touch and sight in cases of "living" structures with a "skin"—the detailed "how" being the birth, and the reacting absorption, of small whirls or electrons. That is the principle and the general Many details which Darwin and biologists omit, and are unable to discover. The details of course exist in infinite regress, and can never be stated in *explicit fullness*, for any being—and *do not need to be so stated*. Most biologists, including Darwin, fancy the details *need* to be so stated if there is to be a sound biology—and that fancy confuses the One with the Many, and is materialism and agnosticism.

Let us now consider the second proposition of this third point:- (b) whether adaptation or evolution is caused by "selection". Osborn flatly says (65) that Darwin held it is, and modern biologists hold it to be unproved. Two pages later Osborn once more contradicts himself, by asserting that Darwin "positively" proved that "selection" is *one* "of the great factors of evolution".

In actual fact, Darwin held that there were two sorts of "selection":- natural and sexual. He was extremely vague as to what he meant by those (see his own contrast of the two, near middle of Chap. VIII, *Descent*). But so far as I can judge, he meant (and did prove by his mountains of facts) that *after* some early living being, organ, cell, or part of a cell, came into existence (was "created", with a cause or "how" unknown to him), *then* its further structure or life was determined or controlled by its *external* environment ("natural" selection), *and also* by its own *internal* structure or environment ("sexual" selection). In short, that was his vague way of biologically stating that (*given* a live structure) action-reaction, or continuity, did hold—or that mass varies with velocity (with life, activity, relations). His view is obviously correct, amounting to "no exact *species*"; this book proves the *broader* principle which all commonsense men hold, "no exact science".

Darwin's *statement* of his view was poor, and exceedingly vague—as it naturally would be, because he had no definite knowledge of either language or mechanics. He *named* his view by the One name "selection" or "evolution", and omitted the Many statement, or "how". And "selection" is obviously a *negative* sort of One name, to the effect that some Many parts or individuals are 'omitted' or 'died'—Darwin's theory giving no scientific statement either of how that negative existence or 'omission' happened, or of how other Many individuals were "born" or positively came into existence.

Thus "Darwinism", or such "evolution", is simply another name for the One or religion; but it is a negative or 'omitted' statement of religion, precisely like Newton's negative first law of "inertia". Darwin obviously really asserted God, or love, or universal continuity; named it "selection" or "evolution"; and omitted *explicit* science or the Many.

I.e., Darwin stated and proved God in biologic terms. But (1) Darwin named his One sum negatively, so that it *verbally* opposed our *usual* religious names; and (2) he and later biologists, in their ignorance of language, fancied that they were talk-

ing science or the Many, whereas they actually omitted science. So biology has got into an increasing mess. E.g., it has just been shown that Osborn's statements are confused, unreliable, and incompetent; they ignorantly overlook the essential points; they repeatedly contradict themselves as to what Darwin taught; and they utterly ignore the *scientific* fact that Darwin's two sorts of "selection" *imply* an infinite regress of "factors" of evolution, so that biologists may name as many as they find convenient and useful in formulating the *science* of biology. In short, the scientific "hows" or causes of evolution or biologic continuity are absolutely infinite.

So in sum, this technical footnote shows that modern biology, authoritatively represented by Osborn, (1) fails to understand Darwin, (2) recklessly misquotes him, and (3) wrongly interprets, or else overlooks, his essential doctrine of no exact species (which doctrine is a negative form of the positive principle of continuity or One God). And this footnote sums up to three facts about Darwin himself: (1) He was ignorant (agnostic) of the basic "how" (the "science") of either the formation ("creation") or the subsequent changes ("adaptations", including "death") of any species. *Strictly speaking*, he simply said that the One made living beings in some mysterious way, just as *Genesis* says the One made living beings in some mysterious way. But he was honest and courageous in admitting such scientific incompetence. (2) He did succeed well for *his own day* in showing the fundamental law of biological continuity or Oneness or evolution—in showing that no living being is separate or "lost" from God, thus proving the existence of God. (3) Darwin's statement of that was *verbally* negative, so that he himself didn't know just what he was proving. Hence, his vague "negative" mysticism is painfully boring (to me, at least), and is confusing.

Consequently, modern difficulties with what is called "Darwinism" are chiefly these: The "scientific" and theological friends and also enemies of "Darwinism" fail to see what Darwin did get right (namely, the biological statement of continuity or the existence of God), or to understand what that *actual* Darwinism is; and neither the friends nor foes have done anything appreciable in deriving the *basic* science or "hows" which Darwin honestly said he was incompetent to give.

The cure for those modern difficulties naturally consists in having those warring factions learn what they are talking about. The basic practical difficulty over "evolution" is that Osborn and Bryan have both been teaching dualism or materialism—have been teaching immoral and irreligious error. Osborn uses his pet words to assert such error, and Bryan used his different pet words to assert the same error. As this footnote shows, Osborn, a typical biologist, displays more ignorance of the subject than Bryan did. For Bryan, at least verbally, correctly objected to the scientific materialism and agnosticism that Osborn defends.

Therefore, the state of Tennessee is right in refusing to spend its taxpayers' money for any teaching of orthodox evolution. The scientists have failed to convince most taxpayers that orthodox evolution is truth, and therefore scientists can't decently or even legally ask that they be given pay for something the taxpayers don't want, and don't offer to buy (Chap. 17 §2). But further than that simple principle of the square deal in any contract or bargain, orthodox evolution is proved to be viciously immoral and irreligious, so that teaching it to defenceless children is equivalent to feeding them poison.

Tennessee, and in less measure other states that have less definitely refused to pay for further teaching of orthodox evolution, are clearly making one of the most valuable practical advances in sound science of this century. If, in order to have "science", it be necessary that our children be taught the poisonous irreligious falsehoods we have seen advocated by leading biologists, then we are better off without "science" and "scientists". Tennessee has rather clearly advanced that sound practical proposition. It is to be hoped that other states will more definitely join Tennessee's lead in advancing both sound science and religion. It is even more to be hoped that scientists will have the courage and strength to drop their materialistic evolution, and learn the truth and teach it.

CHAPTER XXVIII

BASIC PSYCHOLOGY

§1

WE SAW that as various ether structures harmoniously build themselves up and down, they develop parts of themselves that may be said to serve directly as binding them all into the One (Chaps. 23-4).

It was seen that finally each structure definitely gives off small parts of itself as three-dimensioned waves, and similarly takes in parts of all other structures, thus being *explicitly* related to *all* others.

Throughout the universe all structures are definitely related into absolute continuity by (1) "fields", or (2) the extensions of them called waves—by what the average man considers *non-material* or *spirit*, and scientists consider to be *non-material*, or even "empty" space.

Truistically, such relationship or spirit obviously is "communication", or mind, or consciousness. It is one "factor" in the two factors of our everyday speech:- mind and matter.

But obviously, as we can rigorously describe *any* structure as being internally elastic, or *ultimately* internally made up "merely" of waves, it follows that we can, if we like, soundly describe the *whole* universe as being mind, or life, or "energy", or spirit, or soul. I.e., "matter" absolutely disappears in any sense of being *really* distinct from, or dualistic with, mind.

In short, mind and matter are absolutely identical in a One sense; and there is no such thing as "matter" in the usual "scientific", exact, or materialistic sense.

In a *sound* Many sense, mind, as contrasted with matter, is simply the *less* perceptible outer fields of structures. Mind

is the waves, or the electrical part, of Many things. I.e., mind or soul, in a Many sense, is simply a *quantitative* term, customarily meaning the “thinner” part of structures. We can arbitrarily say that mind is *any* convenient part of “structures”, “*up*” to the One limit of *all*; or “*down*” to the other One limit of *none* (but not reaching those limits in this *Many* sense).

As a matter of commonsense, when we in everyday affairs talk of a man from his mental aspect, we are inclined to say arbitrarily that his mind is practically all of him—and vice versa, when we talk of his “body”. I.e., we actually do, in customary speech, make “mind” and “matter” vary quantitatively, just as it has been shown is soundly possible to do. (Of course, if we agree to say that a *certain* part is mind, we are obligated to stick to the agreement until we further agree to change it.)

Probably the most usual everyday meaning of mind (or soul, life, spirit, consciousness, God the Holy Ghost, God-is-love, etc.) is *relationship*. We ordinarily take it that mind is “communication” (or in theological terms, “communion”) between the Many, and in that sense is knowledge or *consciousness* of the “existence” of the universe, including itself. Or, *The related-Many* = *The conscious-Many* = *The One*—mind or consciousness being synonymous with relationship.

In short, by mind in that usual sense, we ultimately mean “is”—mean the ultimate relationship:- identity. Or, in the words of Descartes, “I think; therefore, I am”; in the words of the Bible, “I am that I am”.

Mind (or *consciousness*, etc.) may thus be a One word, a Many word, or a relationship word. Psychology is the part of science that deals primarily with the mind. And as most orthodox psychologists fail to recognize that there are three kinds of words, they indiscriminately use *mind* in all sorts of ways. (E.g., the blatant dualists use the word *soul* as an absolute or exact One word—like an *exact* “electron”;—and they will most likely ignorantly object because I make *mind*, *soul*, *consciousness* synonymous.)

As a natural result of psychologists' mixing the three sorts of words, (1) there are differing "schools" of psychologists, and (2) most psychologists find themselves unable to understand what they are talking about. E.g., see Ward's article *Psychology* (*Ency. Brit.*), in which he is never able to decide just what a given psychological term does mean. As Ward's article is as long as this book, it plainly is not profitable to spend time here on such confused, indiscriminate orthodox psychology.

A treatise on psychology would consider mind (soul, etc.) in some detail in each of its three common aspects. But for our brief outline of principles here, I shall notice definitely only the usual relationship sense. The general principles of the other two aspects of mind are obvious to us anyway; and the important facts about mind will be implied in one way or another hereafter.

§2

Spirit or mind, in the sense of relationship, is of course really *value*—is "measurement" or observation.

Yet science, contradictorily to its clamor that it *measures*, materialistically holds that it has nothing to do with spirit (Kellogg)—or, what amounts to the same thing, has no interest in relationship or continuity or logic or what scientists usually call metaphysics (*Ency. Brit.*, XXIV, 403; Wittgenstein and the mathematicians; Cattell).

In short, most scientists hold that mind is not "real", but is some sort of supernumerary fifth wheel or mysterious dualistic entity, that perhaps "parallels" (i.e., 'dual-izes') the real things that "science" deals with. In that way *scientists fundamentally deny measurement* or observation—while clamoring that only measurement is reliable or "science".

For obviously, there is no science without man as a person—without men's mind (and atoms' minds, etc., usually called electricity), as a relationship between the Many

parts. Mind in that usual relationship sense is hence called "classification", or reason, or knowledge; and is what constitutes or "judges" all value, or observations, or experiments. All such aspects of things are what are usually called spiritual.

Science proclaims its basic ignorance when it disclaims concern with such matters. And when it teaches such unconcern to our children, it practically, even if not in so many words, falsely teaches them that religion or morality can't exist.

Scientists stultify themselves by claiming simultaneously that they measure; and are not concerned with spirit, which *is* measurement.

The existence of mind as a reality that is relationship, is thus the final base of our sound epistemology (Chap. 8). The *observed* existence of mind is real evidence of the soundness of trinity logic.

Or, still more specifically, mind in the relationship sense is what we call *time*—is "subjective" or looking-in, in distinction from looking-out or the "objective" *space*. As we saw (Chap. 5 §5), time logically cancels space. We now see how: the two are simply the two verbal directions of the same circle of ultimately One observation, or relationship.

That, in principle, completes all of psychology which is not definitely quantitative. But in everyday life practically all our psychological knowledge *is* expressed *quantitatively*. We commonsense people tacitly take for granted the foregoing principles or truisms, and on them make most of our everyday Many or scientific psychology.

I.e., we take it that mind or consciousness in general *is* relationship or measure, and then say little more about that principle; but with it, invent and use Many psychological terms which *mean* certain *quantities*. Orthodox science doesn't clearly recognize or admit that such is the case.

We may now notice how we construct and use that *quantitative* psychology—how we have made (and expressed)

“mental measurements” for ages before professional psychologists ever thought of doing it.

Incidentally, the average man still “sizes up” his fellows considerably better for everyday purposes than do psychologists. For a detailed statement and general proof of that assertion about “mental tests”, see G. Stanley Hall’s *Life and Confessions of a Psychologist* (pp. 447-78). Psychologists have barely started on such quantitative measurements. While they test a few elementary *intellectual* phenomena better than the average men can, they haven’t yet even generally agreed what the more important mental characteristics *are*, as a preliminary to measuring them. The “brains”, or intellectual agility and training, which they now largely confine themselves to testing, are a minor part of the whole man. Probably most of the leading psychologists recognize all that themselves—but they are backward about publishing it.

Our usual quantitative mental terms are:- (1) feelings or emotions; (2) intellect, reason, “brains” (or “mind” *in the narrow sense*); (3) will, motive, purpose, aim, ideal, intention. There are numerous words which are qualitatively synonymous with those, but imply quantitative variations from them. We shall notice a few of those variations below. And it is especially to be remembered that these ordinarily quantitative words may also be used in a One sense, or in a relationship sense, *and often are*—perhaps usually are by psychologists. Indeed, it is probable, as we shall see, that words which mean *will* are, in everyday usage, about as often One words as they are Many words.

(1) *Emotions* are dimly or vaguely perceptible activities of our mind, that shade off into the practically imperceptible. Mentally, they *are* the infinite regress we have often noticed.

(2) When an emotion or feeling reaches a certain degree of intensity, it becomes a definitely perceived sensation or “thought”, or a unit part of *intellect*. By observing one of our thoughts or sensations, we can see *directly* that there

is no exact, sharp unit—that there can be no exact science. In fact, there now exist no agreed-upon measures as to just how much mental activity *is* one “unit” of any given kind. But whatever according to our judgment or taste one such unit is, when a number of units perceptibly relate themselves together, or unite, we call that quantitatively larger unit, “thinking” or intellect. Still larger ‘collections’ are called reasoning, knowledge, science, and so on.

(3) Finally, when those unit phenomena, or those “thoughts”, get so highly perceptible, or sum up to such an extent (whatever that variable extent is), that the mental structure is as large as can harmoniously exist under those quantitative conditions, then that structure or sum or *standard* One breaks up, or “explodes”, or reacts, *outwardly*, as *will*. A ‘larger’ (i.e., longer continued) act of will is called intention; then in increasingly ‘larger degree’, motive, ideal, aim, purpose, design. Finally, as the ultimate *whole* One, will becomes *religion*, or can be said to be the universe or God himself *in the spiritual or mental aspect*. Hence, any very strong, extensive, intense grasp of the universe results in a high ecstasy (Chap. 10), or act of will, that approximates to infinite religion, or the “will of God”.

That brief description of our emotions, intellect, and will states the complete outline of psychology *from the Many aspect*. It will probably be clearer if I expand it some—first, from the point of view of ether structures (mechanics); and then into some practical applications.

The most obvious facts in that brief outline of psychology, are that (1) our ordinary “spiritual” terms do carry a quantitative or scientific meaning; but that (2) those quantities are not definitely agreed upon, and hence vaguely overlap in numerous ways; so that (3) our judgment of such quantities is nowadays mostly a matter of taste, breeding, *character* or “humanity”, which is not recognized by scientists as being “science”, although *actually* it is now the highest (i.e., most difficult or delicate) achievement of *sound* science. In short, Kellogg’s typical scientific

disdain for "spirit" is a case of "sour grapes"—plain evidence of professional and ethical incompetence.

§3

It is observed that in a sufficiently steady (but not too steady) environment or climate, complicated ether structures do form, which are active enough to be conventionally called "alive"—e.g., men have formed.

Some experimenters claim that they have experimentally produced such live matter, but others dispute the claim. Until there is some agreement as to *how much* activity is required to make something conventionally "alive", tristically such disputes can't be settled. But scientists are at least on the verge of making structures that are conventionally alive.

Tristically, *any* structure extends backward in time forever, in *some form* of its present state; and will extend infinitely into the future in some form. That is merely to repeat that any Many part has an infinite regress, and ultimately is the One. Of course, as a practical fact, any given structure will sooner or later change *so much* that we can't directly or perceptibly *see* that it is the same structure; hence, we then (in a *Many* sense) call it "something else".

But the point here is, that in an essential or One sense, any structure bears in itself always the total impress, trace, record, or *memory* of the past, *and* the total prefigurement, forecast, *prediction*, purpose, *will*, or plan of the future. The structure is thus, by common standards, alive. *Exactly* speaking or in a One sense, it has an infinite *memory*, and an infinite *will*; and is immortal; and exists in an unbreakable and unbroken chain of life-from-life, as well as in the identical "mechanical" chain of action-reaction. Life is in that sense mechanics.

In a structure such as an atom those mental or relationship phenomena are not directly *perceptible* to our present senses and tools—except to our gravity sense, which isn't usually recognized. Even when atoms design themselves

into the vastly more complex *biological cell* which is perhaps the primitive animal (microbe) or plant (bacterium), there then only begins to be a faintly perceptible mental relationship between the parts of the cell.

As the biological cells further build themselves into more complex, or multicellular, structures, the perceptible mental activity, or relative communication of parts, increases. Or, a memory (technically called instincts, tropisms, and so on), and a will or "soul" (also vaguely called instincts, tropisms, and so on), begin to be quantitatively recognized *by us* as being in the structures. *Truistically*, those structures all the time had a gravity and chemical "sense", or mentality or consciousness, that was perceptible *to themselves*. We too still have such senses. But we often don't definitely notice them—notice such definite One consciousness.

When the structure reaches the complexity of man, with his several "specialized" organs, there may be said to be four sorts of perceptible structures which chiefly act as *relating* organs to *unify* all the organs (including themselves), into the standard One man, or alive and "thinking" man:-

(1) There are four general, molar or "gross", circulating streams, more or less connecting the man's organs:- (a) the circulating air (oxygen) in the lungs; (b) the food stream; (c) the lymphatic circulation; (d) the blood stream, which unifies all those molar streams.

(2) There are what might be called the chemical streams or relationships of the body. Chiefly, they are vaguely called the hormones, including the well-advertised secretions of various glands.

(3) There are the direct molar relationships of the body "itself"—the muscles, and their direct attachments to all other parts of the body, including the containers of the streams; and also the skin, which is in direct molar relationship with the remainder of the universe.

(4) Finally, there is the nervous system, which consists of a network of fibers that directly and rapidly conduct "field" or electrical reactions from most parts of the body

to most other parts. The nervous system sums *itself* into (or as) the brain.

Thus our body itself obviously exemplifies trinity logic:- (1) It is a standard One, or an acting-reacting *continuous* whole. (2) It is a Many—may be divided into *perceptible* parts, but *never* into absolute, exact or sharply separate parts. (E.g., *exactly* where does the food stream cease to be “food” and become “you”?) (3) And *all* the parts or “organs” are dynamic, each obviously circularly serving *as* relationship to all the others.

Plainly, the field (or observable electrical) currents in the nervous system are the summed relating structures of the whole body (including the nervous system)—and then, in turn, of the whole universe. For all the parts of the body, and the parts outside the skin, *perceptibly* unite to produce that varying nerve field or current.

That unit nerve field *is* the man’s mind. It sums to the greatest intensity in the brain, and is there definitely thought or sensations or intellect—and when it reaches a *perceptibly effective* maximum, is will.

That “nervous system” mind, or electrical-field mind, is mind in a *Many* or quantitative sense. In a *strict*, exact, or One sense there is, as we have just seen in detail, *no* separation between that unit nerve field or current, and the remaining parts of the nerve structure—nor between those and all the other atoms in the universe. In a One sense, *everything*, or God, is mind or spirit or soul—and is also matter.

Therefore, as we have repeatedly seen from other points of view, that quantitative or “scientific” mind may be said to be the *immediately perceptible part* of the universe—although the total universe or God is also mind: is mind in the ultimately true or exact One sense.

Further, in that ordinary Many sense of *mind*, feelings or emotions are in *some degree* not mind. I.e., in that quantitative sense, feelings are vague—are not *definitely* perceptible or conscious. Hence they are often called the subconscious, or even the unconscious, mind.

Perhaps "*unconscious mind*", or "*unconscious consciousness*", is verbally so quantitatively emphatic as to be qualitatively illogical. Hence, if you prefer a word more modern than the old-fashioned *feelings*, it is probably verbally safer and sounder to use *subconscious*, rather than *unconscious*.

As a matter of fact, both *unconscious* and *subconscious* are used by many psychologists as being a second mind—an essentially different or dualistic sort of mind. Such dualistic or "atomistic" psychology is of course bunk. You have to be always on guard, not to have such nonsense subtly foisted on you by psychologists. Most of the Freudians seem to be rather tainted with that dualism—as do the old-fashioned psychologists who believe there are mental "faculties" in the sense of mental 'atoms', or *exact* mental things, like apperception, perception, conception, association (and so on, as long as their verbal invention and Latin roots hold out).

In our ordinary quantitative sense in which feelings are not "mind", they are obviously the vast number of actions-reactions in our body other than those *definitely* sensed in the brain; and then, on in regress, are all the actions-reactions throughout the universe. Truistically, those unending feelings actually do *somewhat* modify the conscious thought of our brain, but not with definite perceptibility. For plainly, we can *definitely* be thinking or "sensing" only a few things at a time. But always those "facts" we are thinking, are actually modified by all the infinite regress of *other* things—by "feelings".

In short, there can be no exact science. The glaring fact is that emotion, or what is commonly called humanness (meaning infinite relationship), is actually a more extensive part of the *whole* truth than are the few Many "facts" we happen to "see" definitely. Obviously, from our *individual* point of view our conscious mind is in balance with, or is the reaction of, all the enormous *other* Many things in the universe.

Orthodox science substantially holds that *only* that con-

scious mind ("exact" facts) is of importance. It would omit emotions, or the reacting part of acting mind—on the dogmatic ground that what isn't readily and definitely measurable, *is* measured, and is exactly zero. That is the psychological base of exact or materialistic science. Printable language is inadequate to characterize the stupidity of such "science".

§4

Thus truistically, our emotions on the one hand, and intellect on the other, *are* in balance in a One sense. As soon as something happens (some structure changes) in our body or outside, which threatens to damage us appreciably, that upsets our mental balance in a *Many* sense. I.e., our nerve field or mind changes *perceptibly* or consciously (*if* we have a good mind), and we have a will or purpose to act so as to preserve the balance—so as to "meet" or react to the emergency, whatever it is. But if our nervous system does *not* act sensitively or irritably enough, that emergency *goes right on and effects a change in our bodies that does balance the emergency*. Part of that change is damage to the nervous system itself, giving us a feeling of *discomfort* or *pain*—which may in time accumulate into perceptible consciousness, thus curing our previous ignorance or lack of perception, and causing us to take the requisite *conscious* action. The remainder of the change consists of some damage to the rest of the body. The mental discomfort is a dim feeling that we are ignorant; so we are *afraid*, and vaguely futile, agnostic, timid, and finally unhappy. Thus, *ignorance* or *sin*, or its result, *fear*, is at the bottom of all unhappiness.

Therefore, as shown by the last paragraph, the universe, including ourself, *is* moral, balanced, good, or right, whether we are *conscious* of it or not. That balancing is what we call Providence (purpose, design, and so on).

Whenever we are so insensitive or ignorant that we fail to keep our feelings happily balanced with our thoughts

(and with our resulting will or activity), then, simply as a truism, some part of us gets damaged (changed into a structure *not suitable* to man) and we are pained or experience evil. *Many* balance or morality or moderation is thus restored.

Or, evil, unhappiness, failure, is a *quantitative* fact that is very real *in that Many sense*, and is actually a good *in the wider sense* that it shows us what *is* moral or right—or else eliminates us in a *Many* sense, thus keeping the whole moral if we are individually intemperate.

More definitely, evil, or immorality, is the *time lag*, or delay, or *friction*, that occurs in all *Many* phenomena. That is simply the truism that phenomena take *time* to occur. Or, in human terms, we have a “chance”, or opportunity, or “time”, to learn and to act.

So in a *One* sense there is no evil—no time. In a practical *Many* sense, if we do not “care”, or will, to learn and act, then we *effectually* do will to stand pat, and to be more or less destroyed by our *lack* of thinking and action. We are always at liberty to commit suicide that way, by acting “evilily” or stupidly or agnostically—by being “inactive” or incompetent or “quitters”. If we choose to commit suicide by stupidity, obviously we get what we actually want or will—even though most people “change their minds”, and *don't* want such results when they begin definitely to arrive. In that topsy-turvy (but logically sound) sense, the evil is a good.

It is not a wise thing for us to indulge in such reversing of moral, or any other *Many*, words. I did it there to show that any quantitative term can be *soundly* reversed *if* we openly and honestly do it. But many people fool themselves by *unconsciously* reversing terms. Practically all radicals and reformers thus fool themselves. Perhaps a few crooks and demagogues deliberately reverse words to deceive.

The general, final way in which all *Many* meanings, especially moral ones, are reversed, obviously is to say:- “I

like it in the reverse [evil] sense; therefore that sense is right". Scientists usually argue precisely that way about materialism. They point to its "success", and material advantages, such as flying machines and increased crops, and say they like just that, aren't concerned with other things, and therefore that is right.

We are forced to admit that such deluded people *are* logically sound. They (*at the moment*) like the thing that is destructive *in the long run*; and it actually is right that God or the universe should thus destroy them when they get into that degenerate or short-sighted condition.

The only way we can soundly argue with them, or *correctly* object to their reversed sense of calling long-run evil good, is (1) to recognize clearly that they *are* headed for Many destruction, and show them that they are if we can (it usually can't be done by any reasonable effort); (2) try to show them that people like themselves usually change their minds, and whine, when the long-run results begin to arrive; (3) smooth their way to destruction if they still wish it; and then, (4) correctly conclude that *we* are not thus anxious for future pain and unhappiness, but prefer the usual moral meanings, in which we *steadily* gain life more abundantly.

In brief, we should be tolerant in Many affairs, because they can't be absolutely decided. If our neighbors (e.g., the scientists) *persistently* select what we call evil as being their "good", we should let them go to hell in their own way—*finally resisting only their pulling us along with them*. All we can reasonably do is to refuse to accept their topsyturvy view for ourselves, tell them why, and then decline to let them *appreciably* interfere with us, or teach our children their perversions.

That brief statement of the truistic principle that feelings do balance intellect, or (expressed biologically and mechanically) that any structure does finally stay in quantitative or harmonious balance with others, although exhibiting a time lag—that principle of balance or morality is the

total foundation of sociology (including political science, penology, and so on), of economics, and of history. There is no space in this book of fundamentals to notice even the important details of those expansions.

But I hope I have made it clear just how basicly simple that principle of balance between feelings and intellect is. It is what we common people tacitly know and ordinarily use, but rarely state. To make it still more simple, and obviously usable, I shall in the next chapter restate the principle in everyday ("psychological" or spiritual) terms of will, freedom, responsibility, equality, rights, duties, and sanity or honesty.

CHAPTER XXIX

FREEDOM OF THE WILL: RESPONSIBILITY

§1

IF THERE were exact science or a *perfect* Many (i.e., if we had a Utopia, or perfect everyday life), our intellect or definite consciousness would perfectly balance *instantaneously* with all the rest of the universe, or with our feelings. In that case, as an obvious truism, there would be no *perceptible* consciousness (there being *no* unbalanced action to produce it), and hence no will or act of will, but only an ineffable, unconscious bliss.

It would be Nirvana—a Utopia or heaven, clearly understood early in history. All Utopias, or perfect *Many* heavens, logically would amount to that dreamless bliss, which, from an *individual* point of view, is identical with being dead—a truism that the Hindus recognized centuries ago.

Of course, that sounds queer. The usual Utopia inventor can't think so well as the old Hindus (especially the Buddha). So we are not accustomed to hearing of Many Utopias or perfect heavens which are simply death—as *all* truistically must be. Usually we have the silly socialistic, or *economically* perfectly balanced, Utopias of the H. G. Wells type, in which the materialistic inventor blindly overlooks the fact that perfect instantaneous balance or equality of *any* two parts of the universe, economic or otherwise, truistically results in the total universe's absolutely disappearing, in *all* Many or everyday senses.

Socialism asserts exact economic equality, and truistically is materialistic and inhuman. Theoretically, it is com-

pletely destructive of all Many things—as we have just seen in terms of “Utopias”. In practice, the Bolshevik experiment of socialism was not completely destructive, as it was largely abandoned when its results got too painful and fatal.

All exact scientists are socialistic *in principle*—must, to be consistent, affirm exact Many humans, like Millikan’s exact electrons, all alike or “communistic”. But of course many such scientists are too ignorant to know where their materialism leads them in economics, and hence aren’t consistent, but in actual life drop their principle of exactness.

According to the principles of exact or materialistic scientists and other Utopia mongers, socialism or economic equality is to be practically obtained by government ownership—everybody owning everything equally, and being exactly mutually interchangeable, like Millikan’s silly exact electrons.

Because socialism is obviously wrong, both in theory and in such impossible practice, it does not therefore follow that it is right to go to the opposite extreme, and have infinite, or even the greatest possible economic *inequality*. There obviously should be a temperate, just, moderate inequality—whatever that quantity may be.

In *principle*, or as a truism, that proper inequality should be this:- everybody should have just what he earns; and as each man *in a Many sense* is unequal to anybody else, each will then have a different sized share. In *practice*, I don’t suppose men will ever contentedly agree as to what is a reasonably accurate application of that principle. But after our intellectuals stop befuddling us with their infinite exaggerations or materialisms, people will undoubtedly be more reasonable and tolerant in their guesses and actions on that quantitative subject. In my opinion, our Constitution is the best statement of practical ways of getting economic justice that has ever been made—and I think we live up to it in practice surprisingly well. No practice will ever be perfect, and our practice has some perceptible imperfections.

There obviously is no exact science, either in psychology or economics. So in a Many sense, feeling and intellect never do balance perfectly during a *finite* time. Some emotions, or remote nerve activities, keep building themselves into consciousness, until sooner or later the intellect or consciousness *perceptibly* reacts. I.e., our mind or soul “decides” or wills to balance with those “feelings”, and begins to act—to produce (after due time) the balance.

From a *strictly* Many point of view, that *will* is obviously a name given to that quantitative part of the intellect structure which balances (by going in the opposite direction) the *excess* of feelings which comes into, and becomes, intellect. I.e., in a Many sense, *will* is the name given to the *quantity* (of structure, energy, “spirit”) that during any *finite* time does balance intellect with feelings, by being an addition to intellect.

So truistically, in that *scientific* sense will is *absolutely* determined or governed—by all the Many actions-reactions of the universe.

Or, in that Many sense, our will truistically is not free. We, *as finite individuals* or Many parts, are absolutely irresponsible; or act absolutely “mechanically”; or can have *no* purpose, intention, choice, liberty, duties, or self-control. Or in theological terms, predestination, destiny, fate, is absolutely true *in a Many sense*. (Incidentally, theology is commonly supposed to be taken in a One sense—and in a One sense those theological doctrines of foreordination are absolutely false.)

But in everyday affairs we tend to take a One view of will. We usually directly observe will, not as that scientific Many, but as a One.

That ordinary view is usually a *standard* One view, and hence in a way *implies* that a somewhat quantitative or scientific sense will be used *later on*. But *at the time* we observe will, it usually is clearly a One. Then later on, we may take in a *wider* view of things: we thus *change* the standard (i.e., we simply see or know more later on). In

that *wider* One, of course the *first* will, the original standard One, truistically becomes a *part*, or quantitative—and is not free in such *later* retrospect.

I.e., if we observe the world, including our minds, we notice that *so far as we can see* there is no fact (no thought, no nervous structure) which *compels* us to act or will in one way rather than another. That is because we are always rather well balanced with our environment. For any unbalance imperatively requiring quick action, is ordinarily met by “involuntary” or “instinctive” reactions that occur before we become *clearly* conscious of their need. So that standard One which we *observe*, leaves us *apparently* free to choose any decision we choose. Our will is truistically or circularly free:- we choose what we choose.

That agrees with the fact we started with, in looking at any and all knowledge:- that we first see things *as a One*—do not see them as a Many (Chap. 3). Science thus obviously contradicts the observed facts, and all possible knowledge, when it claims we see things as a Many—that finite “material” parts are real. We simply don’t. We now see that it is inhuman, contrary to all commonsense, to claim that we do.

Thus, according to our *observation*—according to commonsense—our will is free, or One, or spiritual, *and truistically we are responsible*. But *as an afterthought*, when we observe a *wider* standard One, we see that *comparatively* the will in the less wide or former standard One was not free—we begin to be scientific, or divide the universe into related parts.

However (and this is the crucial point, totally overlooked by science), when we have *enough* afterthoughts, we finally see the *whole* One. And in that infinite One, we see that our will does do exactly as it pleases—it being inconceivable that it could act in any other way than it does act. Or, the will becomes the infinite universe, or God himself—*ultimately* is absolutely free, there existing nothing else, to control or influence it.

But if you do not like that form of One words, in which God, or ourself, or "the will", is free, responsible, creative, and so forth, then it is of course equally sound to say that in a One sense there is *no* will. That gives us the *One* aspect of Nirvana.

In that *zero* form of the One, there is no God, no universe. If we prefer to use that Oriental form, then to be consistent we simply have to capsize *all* our everyday language—put a *not* before every sentence,—and merely get the same meaning we ordinarily have. So we needn't further consider such nihilism, or *absolute* "slavish" humility into which theology often falls—as it is merely a new language, *meaning* the same as ours.

So each of us *as a One* is absolutely free and responsible; and is in duty bound to keep the natural law; or, as God, infinitely to act-react in perfect balance or morality. God is "bound" to that, simply because no other action or existence "exists". If you don't like that form of words, then you can logically adopt the no-existence, or zero-One, Oriental Nirvana form in the last paragraph—which *means* the same thing.

And each of us *as an individual* or Many person, is obligated to our fellows. We must give them the same "rights" in a One sense that we have—for in a One sense they are part of each of us. That is an absolute truism—and intellectuals may juggle words and split hairs eternally without changing it a bit.

§2

Thus each person is absolutely *equal* to every other person (or "thing") *in a One sense*. For each strictly is finally the universe, inclusive of all the others.

But in *no* case is any person *as an individual* or Many thing, *during a finite time*, equal to any other, in *any* measure, or property, or characteristic. I.e., there is *no* political, or any other sort of, equality of any two *individuals* as

individuals. To assert that there is, is exact science, or materialism, and logically winds up in socialism.

An infant is obviously in no *Many* or quantitative sense the equal for a finite time of an adult—and I know of no court, or legislative law, or sane individual that seriously claims he is. Neither are any two adults, or any two atoms, or any two electrons, equal to each other.

So the basic principle of all justice, morality, or *sound* scientific action-reaction, is that every person or *Many* thing should be kept in such quantitative balance with all others as to give each one the most abundant life reasonably possible. The *application* of that principle of justice truistically is a never-ending problem, never *exactly* soluble, being quantitative.

The Golden Rule, do unto others as you would that others do unto you, is a sort of *One* statement of that, implying a *One* free will. If we consider the Golden Rule as being a *Many* statement, it is absolutely wrong, as it would imply an impossible *Many* equality or socialism. E.g., no sane man would act (*in Many terms*) towards a day-old baby as he wanted the baby to act towards him: to feed the baby a potato might kill him.

It is obvious that in a *Many* sense *no* person is "responsible" for his actions. As we saw, if a man says "I like this, and therefore it is good", we can not *scientifically* dispute it even if it amounts to his destroying himself. But the *majority* of us normal or rather alive people agree that whatever hurts (especially *in the long run*), and thus tends to make us less alive or balanced, is *bad* or immoral *for us*. There is no "scientific" or material "sense" or reason in it. The *practical*, but not absolute, *exception* to that is:—science always *must* adopt *arbitrary* units and zeros or "starts" if it is to measure; and hence *it is inconsistent for science to adopt arbitrary standards in electricity, and decline to adopt similar standards, called morality, with humans*. But in an *absolute* sense science can say it prefers to be *inconsistent* in that one point—and all the answer we

have is, that if science does, then it commits suicide by stupidity.

In short, we can *really* prove nothing by mere words or logic. If science prefers to commit suicide, we can't stop it by *words* or logic. All we can then use words for is to say, after science is gone, "Thank heaven, we are at last free of those fools". I.e., science's objection to morality is really its materialistic idolatry of words. Scientists demand of us that we prove to them *by words alone*, that there *must* be morality or responsibility. The demand deifies *words*; and we are not fools ourselves, and simply decline even to attempt such proof, as the attempt would be irrational. Science's demand is, of itself, essentially vicious, debauched, and insane.

The acceptance of "morality", or "good", by us common people (1) is primarily the One principle that the universe or God is alive, combined with a verbal agreement to call God or life good or moral; and (2) is secondarily an agreement among the majority to *obligate* themselves *as individuals* to conform pretty closely to what is thus "best" for *most* individuals.

E.g., if I like to walk in the middle of the street, it would in a way be moral or live-giving *to me* to indulge in such walks spryly enough to keep from being hurt by the traffic. But because it wastes the time and attention of other people, I ordinarily must, by my tacit agreement to do what is best for *most*, refrain from such an "immoral" whim.

In the same way, any person who does live with his fellows, thereby tacitly accepts the *obligation* or duty or morality to act in the way that is best for the *quantitatively* greater part of them.¹

¹ That truism, that *morality* is what gives most life to the "*greater part*" of one's fellow-beings, raises the *quantitative* question of what *is* the greater part. That question, being quantitative, is never exactly soluble, the approximate answer always changing. For *practical* purposes, we simply guess that ordinarily the *numerical majority of human adults* is the greater part. It theoretically might, on some occasion, be moral to sacrifice all other humans to keep one married couple alive—or perhaps even an "animal" couple. But *practically*, the fairly accurate solution of the quantitative problem is so difficult (i.e., expensive and slow in numerous ways), that it simply is better to do these two things:- (1) guess roughly that the wishes (votes)

Therefore, although no person has "scientific" responsibility (in any absolute sense—that agreeing with our definition that science deals with the Many or the *un*-absolute), yet each person, by his own tacit agreement to live among his fellows, *is* responsible. If he fails to meet that responsibility, then the majority, by absolute One principle, has the right either to ask him to meet it, or finally to coerce him.

Truistically, all immoral people are abnormal in some degree—usually merely in the degree called "stupidity". Scientists who materialistically deny the freedom of the will and commonsense "duties", are abnormal—are blind to what we readily see. The technically insane man is abnormal. But whatever his abnormality is, each man who *accepts the status of living with us*, is by that acceptance responsible. It rests with us to determine, in consultation with him (ordinarily by court "trial"), what is the best way to keep him from damaging us, that is best for most of us. Truistically, that way is simultaneously the measure which most accurately or "rightly" balances with *his* abnormal size.

In short, the modern scientific contention that no man should be held responsible, and especially that the abnormal man is irresponsible and should be coddled and babied, is simply bunk of the most vicious, expensive, and stupid kind.

We are, for our own good, obligated to give a minority (even one man) some rights, or "mercy" (see footnote just above). But that one man is in principle responsible *so long as he is not confined by us* in a jail or an asylum or the grave. Personally, I think capital punishment is too

of the majority are more life-giving than the wishes of a minority; and (2) counteract the occasional erroneousness of that rough working-guess by giving the minority certain practically inalienable rights, so that *no* majority wish will irreparably or unescapably damage the minority seriously. It is easily seen that our Constitution is based on those correct principles:— (1) a moral balance between individuals; (2) the *usual* right of the majority, but the explicit recognition that the majority is not necessarily right, and allowing for that by the two principles, of (*a*) representation, and of (*b*) checks and balances (reasonable delay or time lag); and (3) bill of *rights for a minority*—even a minority of one. I regret there is no space to discuss the Constitution. It is sounder science than any other document I know of (having only one or two minor flaws)—and *it was made by common men*; not by scientists or intellectuals.

severe a jolt to *our* nerves to be advisable. There are numerous men whose death would benefit the world considerably. But my opinion is that it would damage *us* more to kill them than to let them live.

As an obvious fact, we common people in everyday life handle those complicated One-Many problems with increasing skill and justice. As has appeared, those questions sound exceedingly complex when expressed consistently. The chief complication is due to the fact that in practice we keep the One aspect, Many aspect, and relationship (spiritual) aspect *all in view at the same time*, but we have to *express* them *one at a time*. The other complication is due to the fact that scientists and theologians have made a bad mess of the expression of those questions by trying to talk of only one aspect [or two], radically ignoring the others.

You will probably see that the foregoing is the statement of the way we actually do run society or civilization; and that such a way is logical, intelligent, moral, religious, and *soundly* scientific—even though orthodox science and theology deny that it is.

If you see that, then you agree that the average, commonsense man is sounder than the intellectuals, who are unconsciously trying to mislead him. /

CHAPTER XXX

PSYCHOLOGY OF EMOTIONS AND CHARACTER; FREUDIANISM

§1

THUS far I have stated the quantitative aspect of mind mostly in terms of social or collective psychology—which shades, without real separation, into economics and sociology. We have more trouble keeping in balance with our fellows and the “outside” environment, than we have in keeping a personal or “inner” balance. Hence, we become more familiar with those “objective” terms and facts, and more easily “understand” them.

I shall now restate the same, chiefly quantitative, outline primarily in personal or “subjective” terms, which are less familiar or easy to understand.

In an ultimate sense a man’s emotions balance perfectly with his intellect. But in a Many sense the two are always in some degree unbalanced, and are then, after enough time, balanced by the will or “action”.

Now, if in any way some part of the nervous system gets damaged (i.e., out of order, even temporarily), that part of our mind, or that structure, fails (1) to carry the emotions on up to the intellect and finally to the will, or (2) to carry the discharge of the will back down into the emotions—or fails some in both ways. Whether the defect thus somewhat blocks the emotions, or somewhat blocks the will and intellect, depends of course upon where, in the nervous system or mind, that disorder is. In either case, that partial blockage truistically means that the mind fails to work (i.e., to ‘exist’) *until a larger amount* of structure

or "stimulation" than usual, or "normal", accumulates, and (so to speak) flows over that dam.

If the mental defect is severe (whatever that quantity may be in a given case: in most cases nobody has measured such quantities)—if the mental defect is severe at some place, no perceptible action-reaction, or mentality, will pass across it. E.g., a blind man *can't* see with his eyes.

In that partial sense or quantity, there simply is absence of mind. If the defect exists in the nerves of (say) our heart, the heart will stop, and we die. Obviously, there truthistically can be various degrees of such blocks, in various places in our minds, all the way from simple fatigue, up to agnosticism, and finally fatal blockages.

Those defects may be "curable": e.g., fatigue is usually removed by rest. Or, they may be so great as to be removable by no means we have yet devised. In *principle*, all such quantitative defects can be remedied—can have sound structures put in place of them. But a badly damaged nervous system is practically beyond our present skill. I haven't been able to invent a way of getting a long-time agnostic to see that agnosticism is merely a sugar-coated name for some degree of brain blockage, intellectual failure or incompetence, and moral futility. After a man's brain has failed to see or understand—has been agnostic—for a certain length of time (whatever that length may be), there is no way yet discovered to make it work normally. Removal of their salaries from some scientists will be a fine mental tonic for most scientists, and probably will cure the mental blocks in the younger ones fairly quickly.

Many people, in banging along through life, get perceptibly crippled or otherwise damaged, in their muscles, skin, bones. In the same way many of us acquire defects in our nervous systems or minds. In fact, truthistically no sort of bodily defect can exist which hasn't a corresponding, but possibly imperceptible, defect in our minds—and vice versa. For ultimately the body and the whole universe *is* the mind.

Through no perceptible fault on our part, we may disastrously encounter certain germs, and thereafter have a nervous system crippled by infantile paralysis. Or, we may voluntarily accept the superstition that thirteen is unlucky, and thereafter be mildly crippled by that failure in our mind. But if we use our mind a little we can cure that defect, by seeing that *all* numbers are essentially relationships, so that truistically none can be any more "unlucky" than another. Of course, as a truism, if a man thinks thirteen unlucky, he certainly is a little out of luck. For he *has* got that irritating, crippling block in his mind—due, however, to *ignorance* of the nature of numbers, and not to thirteen.

In general, there can be three *inexact* sorts of mental unbalance:-

(1) A man may have varying degrees of blockage chiefly in his *intellect* (conscious mind, including will). So his emotions would tend to be over-prominent, or to pile up, or to explode, or to "control" him more or less "automatically". He is then said to be tender minded, idealistic, emotional, soft, sentimental, superstitious, simple or dull minded, idiotic, or hysterical—those being more or less increasing degrees of unduly great emotions, or poorly working intellect.

(2) Or a man may have *emotional* blockages, in which cases his intellect (including will) tends to be over-great, and to explode, or "control" him. He is then, in more or less increasing degree, tough minded, brilliant, unemotional, excitable and unstable in temper, harsh, cruel, brutal, vicious, maniacal, paranoidal (i.e., too egotistical; or suffering from megalomania, or a "swelled-head", or undue selfishness).

(3) A man may have varying blockages in *both emotions and intellect*. When those blockages are about equal, so that he does not seem to fall into one of the first two sorts, then the defects perhaps usually vary somewhat cyclically—first one, and then the other, being greater. When that cyclic or double sort of unbalance is mild, the

man is said to be a crank, unstable and erratic—first has “blues”; and later reacts into undue enthusiasm, eccentricity, or recklessness. When the unbalance is severe, he has manic-depressive insanity, alternating from mania or pathological excitement to melancholia.

That is an outline of all our “different sorts” of mentalities or “temperaments”. When the unbalances are high in degree (*how high* is not yet measured, being still a matter of *unstandardized opinion*), then mental disease or insanity is said to exist.

Psychiatrists or insanity experts not only do not yet say what approximate degree of unbalance is pathological or disease, but they don't even agree on a classification of insanity—which is why they often flatly contradict each other at insanity trials. They can't even understand each other's technical terms—or their *own*, often. The foregoing outline is perhaps the most intelligible and direct classification. But so far as I know, it is unorthodox. Also, thousands of other classifications could be better for other purposes, and logically sound.

§2

Probably very few adults have a natural good balance of mind:- (1) Many people in childhood receive frights, and other mental shocks (such as discovering that their parents lied to them about Santa Claus), so severe as to leave defects. (2) Many people receive what amounts to the same thing, too severe discipline (often including too much self-suppression of natural instincts); while perhaps even more acquire selfish emotional defects as a result of coddling, or lack of reasonable discipline and self-control. (3) Undue specialization usually develops intellect at the expense of emotions, and makes many men egotistical, hard-boiled profiteers or bureaucrats, dogmatic, academic, paranoïdal—gives them a swelled-head. But a few specialties, like “reform work” and the stage, and over-use of

narcotics, tend to the opposite:- over-emotionality—tend to make the specialist “nutty”. (4) Further, the environment (especially the man-made environment, consisting of kings, priests, wars, scientists, marriage customs, motors, radio, factories) may change so *fast* as perceptibly to unbalance many. In all ages, some men have complained that the world was rushing rapidly to the dogs—i.e., that their nervous systems couldn’t keep comfortably balanced with those changes. (5) Finally, such a huge amount of error is taught, that none of us escape believing some of it. And every false belief is a defect or block somewhere in our mind. Indeed, this whole book points out the systematic, basic errors made by our professional leaders. If we *actually* believed their agnosticism and materialism, our minds wouldn’t work at all: those errors or unbalances, if *actually* accepted would simply stop our minds, and we should die quickly. Materialism and dualism is each truistically a sharp, *absolute* separation of ideas or nerve structures—a *theoretically* absolute or infinitely fatal block or break in our mind. Agnosticism is the *actual result* of attempting that impossible break:- failure of our minds to work well.

Psychologists only recently have begun to recognize such mental unbalances clearly. The commonsense man has dealt with them ever since there have been men. The fashionable technical names for those unbalances are now “complexes”, Freudian wishes, suppressed desires, phychic traumas, and so on. They are usually held to be *all* subconscious [i.e., emotional]. And according to strict Freudians, they are all due to sex unbalances.

Obviously, however, anything that affects emotions, truistically affects intellect. Hence, those mental unbalances *in principle* are *not* any more subconscious or emotional, than they are intellectual. Therefore, as they appear in ordinary intellectual activities, it is not *necessary* to use any queer “dream analysis”, hypnosis, etc., to perceive them (although such methods may be *quantitatively* highly useful sometimes).

Also, as sex is, *in principle*, a quantitative unbalance (Chap. 23 §1), *any* mental unbalance truistically may be soundly attributed to sex. But to do so amounts to departing widely from our everyday terms (in which sex is *not* such a general name), and to using a new nomenclature—a new dictionary. Such a procedure is obviously unnecessary; is highly impractical; and the Freudian attempt at it has already been misleading to laymen, but especially so to Freudian scientists themselves. Freudians get badly confused because they do not know how to make a new dictionary in which sex is a *general* term: so they use our everyday terms, which mean sex in *considerable* quantity; and grossly, and hence disgustingly, exaggerate the quantitative facts.

The simple fact is that all of us are more liable to get a pain or considerable unbalance, in our mind, than we are to get one in a toe. For every time we do get a pain in any organ, it also gives us one in our mind. And often when we have a pain in our mind it is an extra one, due chiefly to some nervous deficit or excess, and is not severe enough to throw some other organ *perceptibly* out of balance.

We have numerous names for pain in our mind:- Worry—which is the common name for mild agnosticism or One uncertainty or “quitting”; and consequent failure of the mind to work well. Fear or cowardice—which is simply the inevitable, unescapable result of ignorance or agnosticism about whatever it is we are afraid of. Anxiety, doubt, suspicion, nervousness, terror—various names for fear or ignorance. And monotony, boredom, weariness, craze for excitement, pessimism—those being a few of the common names for materialism, which practically is blockages or obstructions in the mind.

§3

Ages before the exaggerated Freudian theories, we commonsense men recognized those pains, or considerable un-

balances, in our minds. We naturally adopted two ways of stopping or remedying them:-

(1) The pain stimulates us into investigating what we are ignorant of. That gives us knowledge, with skill in using it, and permits our mind to work smoothly. We are happy in whatever degree we do remove that ignorance, and the fear it produces. This first way of removing mental pain or getting success, gives *sound* science, that sums into sound religion.

(2) But in many cases that first way does not *work fast enough* to enable us to get rid of enough error to be comfortable. Indeed, after all these centuries intellectuals still teach errors even in principle—errors which a normal child can correct.

So we adopt the quick second way of being happy:- to a slight degree we “grin and bear” the pain of the remaining ignorance (stoicism), but *mostly* we *temporarily* cure it by guessing at the answer, and asserting flatly and confidently that the guess is so. I.e., the second cure is mostly this:- we *make-believe*, or pretend we are happy, or aren’t afraid—guessing, and asserting that we know and are not ignorant.

That make-believe actually succeeds somewhat. That success is the actual reason for *dogma*—which *is* such make-believe. We need to look at that make-believe in some detail:-

(1) If our *emotions* are too low in amount (so that we are bored; dull; selfish; fail to see things, especially people, outside ourselves, as well as we see ourselves), then if we deliberately pretend an interest in them, or “altruism”, we truisitically do stimulate our emotions into activity, and tend to gain a balance. (2) When we are ignorant of some things, if we guess, and confidently assert dogmatically that we know them, that stimulates our *intellect* into activity, and largely removes our fear of the unknown—*provided* that that dogmatic guess isn’t so wrong as to lead us into worse disaster at once. And dogma isn’t that bad, because

even scientists do see the universe with various senses, and hence "intuitively" or Providentially or poetically guess pretty well.

In short, if we make-believe oppositely to our unbalance, we tend to get rid of the pain by actually restoring the balance somewhat.

We all practice make-believe some. If we feel a little out of sorts, we exercise what we call *self-control*. Instead of going further out of sorts, or slopping over and making the unbalance worse, we go somewhat in the opposite direction if we can.

Nearly all our courtesy, and etiquette or "conventions", consist of exercising a reasonable self-control or make-believe. *Practically, it amounts to taking a One or religious view of things*, and with our One or free will using all our energies to force, or "interest", some unbalanced part of emotions or intellect to come back to fair balance. In *principle*, this make-believe method is thus quite sound. It consists of actually *applying* religion, or "free" will, to everyday life.

The great danger of this method is that superficially (or at first) it is so easy to apply that *men overdo it*. Make-believe in such excess is itself an unbalance, named *hypocrisy*. I shall illustrate that general name for *mental intemperance*, by showing the hypocrisy of scientists.

In their ignorance of a sound logic, scientists have often been consciously unable to be consistent in their doctrines. So they honestly asserted agnosticism or ignorance: what they actually meant was that they were unable to *express* essential truth consistently. Then they had a correct, but dim, idea that it would be wrong to slop over in admitting agnosticism. So the agnostics usually practiced make-believe, by dogmatically asserting materialism, or *exact* knowledge (which often was also dualistic). When they couldn't definitely see or "measure" something, instead of sticking to the truth (which was, that they did *not* measure it), they asserted that they did measure it as being exactly

zero. E.g., merely because the differences in electrons haven't been definitely measured, they finally assert that all electrons are equal.

The agnostics nearly all assert emphatically that their *actual* measures are *not* exact. Yet quite dogmatically, in flat contradiction to that assertion of what they actually *see*, and in flat contradiction to their admission of agnosticism, they assert exactness or various "constants".

Thus the scientists practice make-believe or dogmatism, in order to save themselves from the pain of fear, ignorance, or agnosticism. *But*, it next pains them that they do not tell the truth when dogmatically asserting exactness; and in an effort to avoid slopping over in such materialism, most of them react again, and do slop over agnostically. I.e., they assert that they know *nothing* about reality—that final truth doesn't even belong in science, or interest them. That of course is *again* dogma, and false. The truth simply is that they don't know how to *express* the truth: they *know* it, but are so discouraged over centuries of failure to *express* it consistently, that they are trying to pull out of that weakening discouragement by make-believe. Thus they are hypocrites in two precisely opposite directions.

A reasonable amount of make-believe would be permissible *if* scientists would *clearly remember* what they had done, and would with moderately open minds accept actual increase of knowledge as being the *real*, final means of dropping such dogma.

But in practice they refuse to act so about fundamentals—as I have shown repeatedly by quoting them. They fool themselves as to the character of their make-believe, and actually fancy they believe it. For they have so overdone it, that substantially their minds have stopped working on such subjects. So they reject *actual* basic knowledge that is offered them. Their minds can't assimilate it, any more than a dead digestive system can assimilate food.

Hypocrisy or dogmatism is intemperance in the use of the One, or purpose, or "ideals", or religion. The hypo-

crite is an exaggerator of moral matters. He actually over-uses religion, trying to make it serve as a substitute for reasonably accurate Many knowledge.

That *undue* use of free will, self-control, or religion obviously *over-corrects* either (1) an emotional, or (2) an intellectual, unbalance. But such hypocrisy almost invariably is noticed *only* as an *intellectual* exaggeration—called dogma, closed-mindedness, cant, piousness, bigotry, demagogery, bunk, and sometimes by the far too emphatic name, lying.

When we unduly stimulate *emotions*, they usually simply boil over and fizzle out in too much vague enthusiasm or sentimental “idealism”, without leaving any *definite* memory or record in, and as, intellect. But such hypocritical or undue emotions do exist. Nearly all our war crazes and jingo patriotism, violent rebellions, or other crazes, fads, and religious “revivals” are such. We forget them with such surprising completeness, that we have no definite name for that ‘emotional hypocrisy’. The Pollyanna glad-game is such emotional hypocrisy, as is most propaganda or professional pep, punch, boosting, and yellow journalism.

There of course is no real dividing line between intellectual, and emotional, hypocrisy. One rarely exists without a perceptible amount of the other.

When we begin to exercise self-control, or use make-believe to balance ourselves mentally and be happy, we quickly get into practical confusion as to what is fact and what is make-believe—and into even more confusion as to whether it is emotion or intellect that is actually over-high.

That is why it is so extremely difficult for us to determine our actual motive in any important act, and to judge others’ motives. In trying to see motives we get directly involved with the infinite regress, and can’t tell with certainty which is action and which is reaction, or what is cause and what is effect. Orthodox science is helpless before that practical confusion, as it does not admit a standard One will.

If we don't exercise some quantity of self-control or make-believe (if we don't produce in ourselves some of what Freudians call repressions or inhibitions), we simply can't exist in a form more active than (say) microbes. I.e., if we *consciously* deal with *numerous* things, *then* we truistically can't react directly or "impulsively" to *every* passing sensation if we are to survive. We have to repress minor impulses, in order to take a broader, or a long-run, view. Merely because we don't quickly measure a definite difference in electrons, we must not, like an infant or a microbe or a scientist, "jump" to the conclusion that there is none, and that the universe is materialistic and unmoral.

When we take the long-run view we include short-run views, and are "moral"—we take the view that gives life abundantly, or we consciously become God and are happy. The final long-run view is to consider all things, or God or the One, or to act according to unchangeable, absolute principle or religion.

If we are active (if we live in a stimulating climate, as most Occidentals do), we almost unavoidably over-correct one or another natural unbalance and are hypocrites *in that respect, for the time being*. I.e., we make-believe a dogma, a magic formula, a superstition, as being fact.

Because we then act on that dogma, and because it always is in some degree wrong, we naturally later on get pained by it, although to begin with it relieved the pain of a worse ignorance. Then, if we have some surplus strength (are alive enough to have a not-dead mind about that dogma), we *sincerely* acknowledge that we are ignorant on the point (thus being painfully *afraid* of it), and then *prove* that sincerity by promptly investigating the unknown to find out what is the reasonably accurate (i.e., safe) fact. We *enjoy* that active excursion into the unknown (*if* we have enough vigor). It obviously is actual life-and-death adventure, high enterprise, pioneering—it is life, or success and happiness. If we have too little of it we are bored, we degenerate, and finally die of inanition.

But if we haven't got strength to admit our ignorance ("confess our sin"), and don't promptly proceed on the (usually mildly) dangerous unknown path of discovering the safe fact, we shut our mind, assert that the old dogma is good enough, and grin and bear the pain—up to a certain point. At that point most men get hurt so badly that they begin to wail. Nearly all intellectuals are nowadays so exaggerated, and hence pained, as to be wailing.

§4

Thus, several centuries ago "science" was a sound admission by some vigorous men, that the exaggerated theological dogma of that age wasn't accurate enough to keep the more sensitive nervous systems of the more alive men out of pain.

So science then correctly admitted agnosticism, and at once *sincerely* took active measures to get rid of that ignorance, by finding the truth. Science was also right that what was needed was the "material" or Many truth. For theologians had been grossly exaggerating the One truth, *over-using religion*. So science in that day *was* essentially right.

Science therefore had great success. Hence scientists overdid it—becoming so prosperous as to be protected from the hard knocks of common experience, that making them weak and emotional.

They nowadays futilely assert agnosticism, saying they aren't interested in what they don't know, and asserting with the smug complacency of "quitters" that they "can't understand" all this commonsense which we average people have known for ages. They allege "sour-grapes"—another aspect of make-believe. They are corrupt and contented, and materialistic.

As evidence that they are, they assert that they have nothing to do with reality. Also, they have just built themselves, mostly with money given them by credulous or easy-mark millionaires, what they call a "temple of science", in

Washington, at a cost of about \$1,450,000, with some similar sum for upkeep. Thus they flaunt fancy buildings as success, practically forgetting that science is knowledge. Good buildings are of course desirable. But is it not in keeping with the natural fitness of things to put fifth rate men in first rate buildings. And like other commonsense people, I am doubtful of men who put on an expensive, ornate material "front". "Let another man praise thee, and not thine own" purse.

That shows clearly how science got into its present difficulties. And as a crucial proof of the details above, we may look at the typical present-day claims of scientists. Those claims show, from another point of view, how extremely far scientific hypocrisy has gone.

As we have repeatedly seen, and as is rather common knowledge, scientists ordinarily claim:- (1) that the world is divided into sharp, exact things (materialism); that even the different branches of knowledge are separate from each other (materialism and dualism); and that scientists have no concern or interest in some parts (specialism, a form of materialism); (2) that they do, or at least strive to do, their work in a disinterested, unemotional manner; e.g., Millikan and the other signers of his *Joint Statement* assert that science proposes to work "*without prejudice or preconception of any kind*" (their italics); and finally (3) they claim that exact science is observably true—although scientists equally emphatically agree that their observations are not exact.

Those three claims truistically amount to scientists' asserting respectively (1) that their ideas are separate or dissociated (materialism and specialism); (2) that they work without emotions; and (3) that they abruptly change from one sort of general view or personality (holding exactness), to the opposite, contrary sort (no actual exactness).

And those characteristics, which they anxiously claim in season and out—dissociation of ideas, callousness of emotion, and abrupt changes of personality,—are precisely the

symptoms of emotional insanity, of the sort that criminals often have:- dull, callous emotions that simply fail to work, so that the criminals haven't enough feelings to deter them from the most atrocious crimes, like that of the two highly scientific Chicago boys. That insanity has various names:- *dementia praecox* is perhaps the most usual; but *paranoid insanity* (i.e., egotism or swelled-head selfishness) is often preferred.

To use common words, the scientists *try* to be over-intellectual. *If* they were what they claim to be, and what they urge us to be, they would be insane and criminal—men whose emotions or morals aren't vigorous enough to keep them decent, fit neighbors.

The theologians who had failed when the vigorous early scientists took up the effort, failed for the same reasons science has failed:- too much dogma, or make-believe that they knew facts they didn't know. And *all* men who fail to achieve success or happiness fail in the same way. They fail because they miss achieving a reasonable or happy mental balance, and then (usually among Occidentals) because they in some part of life *overdo* self-control into hypocrisy (fool themselves).

Among Orientals and people of countries with poor climates, there is a tendency to fail because of a *deficiency* of self-control—because of fatalism or "resignation". But an excess of hypocrisy after a time leads to similar weakness, resignation or agnosticism, and quitting.

So those details showing why scientists got correctly started, and why in a *general* sense they have finally failed, are sign-posts to all of us in seeking our happiness.

Of course, science didn't *wholly* fail—no man does. The huge mass of rather correct facts that science collected is valuable.

§5

Thus it appears in conclusion, that the war between science and religion has not occurred because there is any gen-

uine difference between science and religion, or because they are two "domains of thought" as is dogmatically asserted by orthodox scientists and theologians (see Millikan's *Sc. and Life*, and nearly any technical theological text). The conflict has occurred as a direct result of sheer ignorance of elementary psychology, and as a general result of ignorance of language on the part of intellectuals.

We have seen in specific detail what the average man has steadily known and used:- that success or happiness consists of a reasonable or comfortable balance between different mental structures—between emotions and facts,—which finally involves a balance between us and the environment in general. That success simply means that we "exist" as widely as we can—that we live as much as we feel like living. We Occidentals call that amount "vigorous life", or life more abundantly.

In short, life itself, the "object" of life, or the answer to "What's it all for?", or "What's the use?", is a truism:- we *are* what we are; and if we really see what we are, that is what we want to be, and we like it—for there is nothing conceivable but living or being. Or to put that negatively:- if we are unhappy, we have such pain simply because we have got some magic formula or dogma blinding us, shutting us off from some life.

The customary dogma or superstition that blinds us, is that there is some God who is *essentially* "superior" to us, and that we can never be happy until we manage to reach up to him and have him tell us what it is all about and why, and where we are going. In short, we try to pass the buck to God; and that weak dodging of responsibility, or of life, truistically makes us unhappy.

If *we* don't know what it is all for, then just how do we fancy *God* is going to know? If *we* can't stand on our own feet and be men, how do we think *God* is going to do it? *Who* do we think is going to tell *God* how he, God, happened to be; and why; and what *he*, God, is for—and how *he* is to be happy?

In short, if we want to be babied and petted by God, *who* is going to baby and pet and coddle *God*?

The obvious answers to those pertinent questions is that *we* are God, and we know all the answers—that there isn't anybody else to tell God about it all, and doesn't need to be. *We* know. *We are* God, *ultimately* infinite and invincible and all-wise and content.

In sum, a genuine knowledge of psychology removes the final blinding dogma that there is a God superior to our ultimate selves, making us irresponsible and dependent. With that knowledge we can really exercise a One or God-like will and be ultimately free, and happy.

We find that, in a *Many* sense, such freedom consists of being *quantitatively* balanced—of giving the other fellows and things *their* just value or measure.

Thus, sound psychology explicitly sums up just as any sound science does:- The universe or God is continuous, and there is an unbreakable chain of action-reaction. Or, *The related-Many = The One.*

PART III

FUNDAMENTALS OF RELIGION

CHAPTER XXXI

RELIGION IN GENERAL

§1

THERE are obviously three general meanings of the word *religion*, corresponding to our three sorts of words. And each of the three may refer to either *religion* itself, or to the *expression* of religion.

(1) In the One meaning, religion is mysticism—is *knowledge* or self-consciousness of the continuous universe or infinite God.

The One *expression* of such religion or One knowledge can therefore be logically achieved by any One word we please—and *strictly*, by One words only, using no Many or relationship words. There are two *general verbal* ways of expressing such One religion:- by saying *infinity*, or by saying *zero*. Both mean God.

(2) In the Many meaning, religion is the sum of the knowledge of all the parts or Many into which we arbitrarily divide the universe. That is merely the Many way of saying again that religion is knowledge of the One.

The *expression* of religion, in that Many sense, *is* (sound) science. But in a more conventional, restricted sense, the Many expression of religion is the *part* of science that is given in explicit terms of human existence or happiness. That branch is named the “science” of ethics or morals. Obviously, the age-old quarrel as to whether “morality” is “religion”, is merely a verbal form of the One-Many problem—and its absolute solution is so obvious that there is no need to state it here.

(3) In the relationship meaning, religion is commonly called faith (or was—in past centuries, before *faith* got its modern meaning of guess, scientific hypothesis, theological “mystery”, or agnosticism). Or more definitely, religion in the relationship meaning is love, or knowledge of continuity into ultimate identity—which of course is merely the relationship way of saying again that religion is knowledge of the One.

It depends entirely upon our arbitrary definition of “expression”, whether we say there is *expression* of religion in the relationship aspect. In a practical sense, it can be said that (1) all ritual, or (2) “symbolic”, figurative talk of God, or (3) a sound scientific theory of relativity, is expression of religion as the final relationship of identity.

Or, what philosophers call “philosophy”, and scientists condemn as “metaphysics”, *emphasizes* the *expression* of relationship, or God-is-love.

In a *strict* sense, Many expression is not possible, unless it explicitly includes relationship, becoming:- the *related*-Many. So when we speak of the “*expression* of religion as relationship” we can consistently have only a quantitative meaning, to the effect that relationship is *emphasized*. In that sense, ritual, philosophy, mathematics, logic, and any sort of foundations of science, is relationship expression of religion.

Similarly, the use of *only* One words, mentioned above as being the “One expression” of religion, is not strictly language in our ordinary sense (Chap. 4)—is not “positive” expression, but is ineffable, inexpressible, or mystic. Strictly, it is not possible in actual language to separate the *expression* of religion into parts. So the foregoing “three expressions of religion” simply refer to quantitative emphasis on one or another of the three sorts of words.

So in a definite sense *religion* is the reality, or knowledge itself of a One God; and *theology* is the *expression* of that knowledge.

But in ordinary talk we do not bother to make that distinction. We commonsense men know and use sound epis-

temology (Chap. 8); and there is no need for us wearily to waste words by splitting hairs between "fact" and "expression of fact", after we once make the two consistent with each other. Indeed, for our practical purposes, ethics or morality *is* religion—as it is a standard One expression of religion.

So the wordy quarrels of scientists and theologians as to the differences between religion, theology, ethics, and science, merely serve as real proof or actual evidence, that they do not know the foundation of any of them—are ignorant of sound epistemology. For the three formal meanings of religion—the three parts of the Trinity—are all ultimately identical, being merely verbal variations needed only *if* and *when* we talk.

Hence, the libraries of arguments and sermons theologians have written are mostly trash (as can be seen from any summary of those doctrines of the Trinity; e.g., see *Ency. Brit.*, VI, 284-5).

Further, the usual dogma of both scientists and religionists, that science and religion are two "domains of thought", have two purposes or tasks, and two methods (as is asserted by Millikan and his fourteen scientific colleagues, and sixteen religious leaders, *Joint Statement, Sc. and Life*, 86-9)—such dualistic dogma is simply more trash.¹ There

¹ Millikan wrote me publicly (and hence presumably carefully), July 6, 1923, denying that the *Statement* asserts such a dualism between science and religion. He declared that the *Statement* does not "indicate that the signers are either dualists or monists". (*Monist* is his word: I avoid its use, as intellectuals give it dozens of erroneous meanings of a *pantheistic* sort, some German materialists being especially fond of using it as a smoke screen.) Millikan substantially declared that he tried to formulate the *Statement* so that it could be signed by men with those two "quite diverse" [i.e., mutually contradictory] beliefs. If that is so, then his *Statement* was deliberately intended to deceive the public—to the effect that his "leaders" agreed on fundamentals, when in fact they did not. But, in the same letter he restated what he claimed his *Statement* tried to say; and glaringly to me, that restatement was again dualistic—more emphatically so than is his admittedly evasive *Statement*. Then his same letter finally made the extraordinary implication that he did not feel himself competent in these fundamental matters. He perhaps overlooked the obvious truism that he had no right to utter a flat public assertion he wasn't competent to make—any more than he has a right to utter a check with no funds competent to meet it. To do so is deliberate, barefaced quackery. I judge that that hash of conflicting statements in his letter actually means that he and his "leaders" expressed their professional doctrines as well as they could, and those doctrines are dualistic in an addle-headed way.

are not even "two" methods, a scientific and a religious. As we saw, there is merely arbitrary emphasis in any way we please, upon various parts of one single method:- *The related-Many = The One.*

It thus appears (1) that orthodox scientists and theologians hold that science and religion are separate fields, or dualistic (although it is now the fashion among some of them to declare that the two do not conflict—that dualism is not dualism, but is dualism); and (2) that orthodox religionists are contradictory and uncertain about the basic problem of the One and Many, or what they call the Trinity (*Ency. Brit.*, VI, 284-5)—in short, about what religion itself is.

It follows that authorities are incompetent in religion, and we must depend upon ourselves to see the truth. So we proceed to use our commonsense.

§2

Religion is the older, formalized name for what we nowadays commonly call success and happiness.

Professional religionists have so grossly perverted that name *religion*, that many of us are embarrassed by it, and avoid it. But I think the majority would prefer that I use the name in this book—for clearness, and to begin rehabilitating it. So I use it. But if you do not care for the word *religion*, I see no special reason why you shouldn't use synonyms such as success, happiness, sum of life, meaning of life, purpose, knowledge, loyalty, morality, common decency, love, kindness.

All of us at times get either (1) too much, or (2) too little, of some thing or another. Truistically, that pains us, or destroys us in some degree—is some degree of failure, or unhappiness, either of surfeit, or of deficit or famine. Religion is knowledge of the One, which enables us to see at once *in a general way* how to remedy that failure. Religion thus (in principle, at least) is our cure for

that failure, turning it into a reasonable balance or happiness.

In a "practical" or everyday sense, a *sound* religion will of course enable us to get the Many details which give us that relief from the pain of either surfeit or famine. In that sense, religion is a *sound* Many science. I.e., no religion that does not include sound Many knowledge and Many expressions as an essential part of itself, is any good to us *as individuals*. So most of this book is quite properly used in giving the outline of such science. All of that science *is* religion in this everyday, highly important sense.

Pleasing food, "money", stimulating novels or plays, fine clothes, comfortable houses, reliable and fast transportation and communication, and all such "benefits of science" are truistically genuine religion in just as great *quantity* as we can use them without getting an uncomfortable, hampering surfeit.

Conversely, uncomfortable *lack* of such material things indicates something wrong somewhere with the Many aspect of our religion.

The poor man who complains that he hasn't enough goods, and the rich man who complains that his digestion is bad and that he is too much "fed up" with various things, are both inadvertently informing the world that they have neglected and failed to acquire a sound Many knowledge for themselves—that they both are failures in some degree, and haven't got a genuine or even respectable religion.

Of course, none of us can have a *perfect* religion. We all *must* inevitably sometimes have some surfeit, or some famine. The men who rather chronically have one or both are the failures, with defective religion.

Most people are so well aware that such *Many* knowledge is a part of religion, that often it is not spoken of as part of religion. Further, we just noticed Millikan and his intellectual colleagues saying that such "science" is separate from religion. So intellectuals, by such wrong dualism, have made most of us rather timid about admitting

that we know such "material" or Many success *is* part of religion. That tends to unbalance us somewhat.

Further, in all our lives painful deficits and surfeits often occur, for the correction of which we can't get definite knowledge *quickly* enough. Indeed, often we can't tell just what is the cause of the pain. Our nerves sum up the fact that there *is* pain, but sometimes the most skilled diagnostician can't even judge whether it is surfeit or deficit.

For those pains our Many knowledge fails. The race will simply have to live longer, and observe more, to gain definitely the Many knowledge needed to deal with them. Then further unbalances will become perceptible to our increasingly sensitive or alive nerves, and have to be corrected.

For those pains we have to use *One* religion as a cure—as a means of bringing the unbalances back to a balance; of turning impending failure and unhappiness into success. We use religion in that more conventional sense thus:- We have a general One knowledge that everything *is* finally unbrokenly balanced in action-reaction—we ourselves ultimately summing up as God. *In principle*, we thus have infinite spiritual energy available to us. Or, all the rest of the universe or God is concretely "back" of us, supporting and strengthening us as we need. So we simply use that actually available infinite "reserve" energy in whatever degree may be needed, to balance or remove the painful unbalance.

Of course, we do not always conceive religion in that coldly "negative" sense of relieving trouble. But it is *clearer*, expressed thus.

The "positive" aspect of the same thing is more pleasant and useful:- When we have One knowledge, or know that all the rest of the universe is supporting us, then truistically our emotions are more or less intensely and smoothly working, even to the degree of ecstatic happiness. And that *is* joy or success (Chap. 10). Such a flow of energy, summing up as our intellect and will, then (truistically) leads

us to react back to the rest of God in a correspondingly vigorous, effective, joyous, *interested* way. We have "initiative", magnetism, enthusiasm, *knowledge* and its consequent strength and courage—all of which is summed up by saying we have *character*.

Such a flow of energy, such religion, truistically maintains a strong and successful balance. It prevents pain, both individual and social—*anticipates* pain before it occurs appreciably, and avoids ever having it perceptibly. Of course, to "anticipate" pain is truistically to have it in a *mild* degree. So this "positive" aspect is in principle the same as the negative aspect, but practically more attractive.

It thus is an absolute principle that if we do not "have religion", if we do not in some degree consciously unify all things, or recognize the Oneness of God, and get away from the dualism, materialism, agnosticism, and resulting disinterestedness, incompetence, and fears of our scientists and theologians, then in that degree we lack character, and are failures, and unhappy third-rate men.

§3

Obviously, the direct means of attaining happiness or success is (1) to observe or "grasp" the One or God; and (2) "prove" or *really* experience that knowledge by using it—that being truistic, of course.

We saw in outline in Chapter 10 the details of grasping the One, even to the degree of ecstasy or "rebirth" or "salvation". In other chapters we saw the general principles, and logical proof of the soundness, of such knowledge.

The actual experience of such success, by means of humor, business or other profession, marriage, ritual (including church-going), or by the ritualistic use of alcohol,—such actual experience, or real proof of religion of course lies in your own hands. You have to "experience" things for yourself. You can get *some* pleasure and sustenance out of watching an "authority" eat a hearty meal (e.g., it

makes your breathe faster, and thus assimilate more oxygen out of the air). But you would rather soon starve to death if you didn't do some eating or experiencing directly for yourself.

We finally saw, in the chapters on psychology, that such observation of the One, or religion, is (1) *primarily emotions*, which (2) sum into a general intellectual knowledge and One will. That is a fact which men have rather definitely recognized for ages. At the beginning of recorded history theologians had already correctly, even if vaguely, formulated happiness or religion as (1) being mostly an emotion of ecstasy, or certainty that the rest of the universe was "with" us, which then (2) consciously (as intellect and will), became knowledge or observations or "revelations" or *intense* experience of a unified universe or God. Their *expression* of that religion was defective, as we have seen and shall see further. But that was their rough idea—and it obviously is right.

So theologians naturally (1) emphasized unduly the emotional aspect of religion (specialism), and (2) as a secondary matter, intellectually gave as correct a Many description of the universe as they could.

Inevitably, and usually rather quickly, their Many science turned out to be *observably* badly inaccurate. So in order to preserve *emotional* integrity or unity or *courage* (retain the *immediate* benefit of religion), theologians always, in every "religion" or sect, shortly began to insist (i.e., dogmatize) upon the infallibility, or "divine inspiration", or constancy or exactness, of their *Many* facts—of their *intellectual* expression.

Theologians *claim* that such infallibility rests either in (1) a pope or top priest, or (2) in certain writings or Bibles. But, as *they themselves select* both the popes and the alleged divine writings, obviously *in actual principle* they merely claim that they themselves are [covertly] infallible or exact—precisely as do our orthodox scientists in a still more "refined", or "modest", or covert manner.

Theologians have not been able to see that *Many* knowledge is sound only when it runs on in infinite regress that is *never* exactly statable, and so is always *inexact* or *fallible* or *uncertain*. Our scientists haven't broken away from that error of infallibility, or materialism, made by theologians. Scientists, too, fancy that intellectual or *Many* knowledge must be infallible or unchanging. So basically, both Fundamentalists and scientists are correct in condemning each other. It is merely a case of the pot calling the kettle black. Both are materialists—which is about the blackest sin or deepest stupidity there is.

That theological *exaggeration* of emotion was undue make-believe or hypocrisy. And theologians' two-fold claim (that exact or infallible *Many* knowledge is essential; and is supplied by themselves through a pope or Bible), is the opposite intellectual hypocrisy, or essentially materialism (i.e., abandons emotions or "spirit" for material fact); and, worst of all, practically is closed-mindedness and *Many* or human intolerance.

Of course, that theological "materialism" often tends to be what might be called a "negative direction" of materialism. I.e., usually the theologians hold *standard* Ones (several Gods) to be exact or perfect or infinite or absolute parts of the whole One. But obviously that theological error is essentially the same error as the scientific error of holding parts, such as electrons, to be exact or absolute. Theologians are merely a bit more emphatic verbally; and sometimes add a few verbal flourishes about "mysteries", instead of talking about "hypotheses". The theological view is technically called polytheism. (For further detailed evidence that they make such materialistic error, see Chap. 34. Our theologians of course usually *verbally* deny that they essentially have several Gods. But obviously, even an *infallible* Bible is essentially one perfect One or God among other Gods.)

In their ignorance of the basically *inexact* character of *Many* knowledge, theologians were more or less driven to

such hypocrisy, materialistic dogma, and intolerance. There *was* a practical need of having human balance, and a human driving force—of having One emotion or religion that gives initiative and courage. Men had to have courage, comfort, and that One “spring of action” or ecstasy or energy—or fail. So theologians in their zeal to give the essentials of success, overdid it, became radical or specialized—inevitably fell into hypocrisy, dogma, bigotry.

At intervals throughout history men would object to such hypocrisy, and repudiate the glaringly inaccurate dogma or creeds that had developed. The race’s last general objection is named “science”. But science assumed the *same* foundations:— that knowledge is essentially exact, or materialistic. So in spite of their agnosticism about the infinite details of knowledge, and clamorous professions of open-mindedness, scientists have fallen into the same faults of hypocrisy and dogma as the theologians.

Further, science, in its nominal revolt against theology, actually did revolt against the *emotional part* of theology. Science repudiated all substantial concern with emotion—proposed to run solely on intellect, or “fact”, or reason. And that repudiation of emotion probably makes science even more dangerously erroneous than theology. For it is an *extra* error that theology *in theory* doesn’t have. But in *practice*, theologians have been about as unemotional, harsh, and intellectually bigoted as scientists.

Scientists claim they want to be judged intellectually—judged on fact. By such a standard, scientists are glaringly *inferior* to theologians. They make a grave extra error in theory (repudiate “emotion”).

§4

That is why scientists and religionists have gone wrong. It was not innate depravity, or “cussedness”, or wrong intentions, or lack of vigor (*at first*). Having started on a doubly wrong base (materialism; and dualism, with ag-

nosticism in some form as an inevitable result), their very zeal to get the truth made them fall into worse and worse error, and made them mislead us common people more and more.

Under those embarrassing conditions, theologians have become more and more hypocritical, dogmatic, intolerant, and unreliable. And scientists have become more and more dualistic and materialistic, agnostic and incompetent, coldly intellectual, emotionally callous, dogmatic, intolerant, and unreliable.

Scientists, because they assert agnosticism, have retained a nominal honesty. Younger scientists, so far as I can judge, still with open eyes try to be free of hypocrisy. So we can probably trust them somewhat as future leaders, *if* they can only manage to see that the truth is *expressed* by some such formula as *The related-Many = The One*.

After all, the base of character is honesty—including the courage to *act* honestly (which implies absence of fear). So far as I can judge, few present-day theologians are sufficiently free of hypocrisy to be trustworthy as leaders. Their total professional training is towards hypocrisy, as we have seen; so it is unreasonable to expect many men who have had such training to remain appreciably untainted by it.

I may be wrong in my judgment that young scientists and perhaps a few great older ones, and a few theologians, may safely be trusted to lead us. I hope I am neither unduly optimistic, nor pessimistic. In judging for yourself, you should remember that I have already quoted an authoritative, carefully considered statement by a theologian, to the effect that it is an advantage, is "fortunate", to be hypocritical:- "By a fortunate power of mind they [men] are able to believe as truths mutually inconsistent propositions" (*Ency. Brit.*, VI., 289b). I am afraid that such a theological view proves me a little optimistic in my judgment of theologians.

§5

In this chapter we have seen definitely the general principle of religion, its essential value to us, and broadly how to get it.

With that as a foundation, we then saw why specialists in religion, and specialists in our modern reformed religion that is named *science*, have failed. They simply started wrong, by assuming erroneously, and in deep ignorance, that Many facts are exact or infallible, and (contradictorily) that dualism is correct.

From that, we see not only what is the basic truth, and how to get success or religion for ourselves, individually and socially; but we see further as a practical, incidental fact, how little or much we can trust our various intellectual leaders.

CHAPTER XXXII

IMMORTALITY

§1

THE essential base of religion—the continuity, Oneness, divineness, or eternity (i.e., timelessness) of the universe or God—that essential base truistically implies, that in some way men too, in an ultimate sense, are eternal or immortal.

As a result of dreams and of various hallucinations due to disease or drugs, primitive savages tend to believe that the mind may be somewhat separate from the body. As a *quantitative* fact, our minds may actually be *outside* our skin-bounded body to some extent; e.g., if we look at a star, *part* of our mind *is* truistically spacially in, on, or including that star. As a quantitative fact, the savage is right.

So theoretically, men in various ages would have some vague idea that their minds or souls survived their bodily deaths—and perhaps anticipated their births (transmigration). It seems to be the historical fact that such beliefs often did exist. Apparently, at first men were emotionally largely indifferent to the belief—inclining towards a mere intellectual idea that the survival was a “thin”, rather indifferent existence that perhaps might be terminated in various ways: a ghostly existence, like Sheol in the Old Testament (often incorrectly translated *hell*), in which *all* existed after death. We are not sure of such historical facts: those beliefs were vague, and varied widely even at the time they were held.

Then, when professional theologians began to add great zeal and undue make-believe to religion, it seems to be the rough historical fact that immortality became a sort of crucial test of religion.

Roughly speaking, theologians first vaguely insisted that the thin, ghostly, desolate existence of a man's soul after death in the land of shades or spirits, or in Sheol, was objectionable (it dogmatically grew so objectionable as to be hell); and that they could, by their exact magic knowledge, release men from it (let men go absolutely *out* of existence). Then they added the dogma that we do not get justice in this world (that dogma amounting to the utter bosh that action-reaction does not hold), and so must have another life in which to get it—and incidentally to be reunited with those we love. They also confusedly added the dogma of original sin, or the fall of man.

In short, omitting the volumes of technical details of immortality in different ages and lands, immortality finally became a vague sort of magic promise given by theologians, that *in a future finite or Many life* any (1) deficit, or (2) surfeit, in this Many life, would be remedied—*provided* men “believed” the theological creeds in this life: i.e., in practice, submitted to, and paid, the theologians. That dogma of immortality became the ultimate make-believe that cures everything.

§2

Of course, the obvious and simple truth is, that *One* immortality exists, but *Many* immortality does not exist.

In a *One* sense, we *are* God, and time simply does not apply to us—a principle which in our ordinary Occidental language is expressed by saying that we are eternal, *both* in the “past”, and in the “future”.

In a *Many* or *finite* sense, we are not immortal. In fact, we are changing all the time *now*, in such a scientific or *finite* sense. We obviously are not the same finite person now we were at birth. We haven't the faintest perceptible recollection of that new-born individual who once was ourself. We know more about the man named George Washington than we do about that new-born individual; and in that self-consistent, quantitative or *Many*, sense are now

considerably more perceptibly or consciously George Washington, than we are that new-born self.

Yet, the so-called Christian theologians assert that a Many, *finite* person is eternal, or immortal. That of course is identical with asserting exact, constant electrons, and is materialism.

Such a Many "immortal" or exact person could not change, and hence could not act-react with any other person. He would be absolutely separate from God—truisitically couldn't even act-react with, or love, God; and God could have nothing to do with him. Such finite "immortality" is obviously nonsense, and impossible, just as we have seen Millikan's electrons to be—is essentially the same sort of materialism or polytheism.

Of course, theologians *say* that such a constant, exact, finite person is "spiritual" or immaterial—and hence isn't materialistic. But scientists now also *say* that such a constant, exact, finite electron is energy or immaterial—and hence isn't materialistic. Obviously, regardless of what they *say* (of their fashion in words), both theologians and scientists essentially hold the finite, inexact, and unreal, to be the absolute and real and One—and that error is what *materialism actually is*.

Such theological finite "immortality" or exactness contradicts the commonest facts. The last time I was sound asleep, obviously my "personality" completely ceased to exist *to me*—ceased in the ordinary quantitative or Many sense, by becoming *imperceptible* to me. Thus in a *Many* sense my personality isn't even "immortal" *now*. Tonight it will again *perceptibly to me* go out of existence in a finite sense. You can observe a similar fact for yourself, about your finite personality.

Such theological Many "immortality" glaringly contradicts even the two objects it was invented to attain. (1) First, it is to give us justice, or correct in a future life the surfeits and deficits accumulated here—is to "reward" us, by giving us the opposite. But any surfeit here implies that the personality has been added to, and *finitely* or individually is no longer the *same* personality. And the subtrac-

tion of such a surfeit in a future life would truistically involve changing the personality to something else—to *some other* Many personality. In *both* cases the theory of *individual* immortality obviously contradicts itself. (2) Second, finite immortality is to give us the joy of uniting again with loved ones. But if our Many souls are constant, it would be impossible for us *ever*, either *now* or in the *future*, to love anybody, or be united with him.

Incidentally, any God who would *really* separate us from our loved ones, the separation requiring an absolute remedy such as exact immortality, would be an inconceivably evil monster. I.e., there truistically is, in theological immortality, an absolutely vicious God who tolerates (even “creates”) absolute evil—such as separating us from loved ones. Only an insane man could actually believe in such a monstrous God.

The libraries written by theologians contain incessant protests that they themselves don’t mean that there is such an absolutely vicious God. They even invented the “fall of man” to evade having such a criminal God—laying the responsibility for evil nominally on *man*. But a God who would *let* man absolutely “fall” is essentially just as infinitely criminal, although perhaps not so glaringly or directly so.

Of course, as simple logical truisms, such an absolutely evil God is impossible. Theologians tried to make a finite man into an infinite One, called “immortal”, and all those troubles naturally result.

Thus, fundamentally, our orthodox theology is materialistic and dualistic—just as is science. That is why so-called Christianity has failed. It never has been real Christianity (see next chapter). And that is why “science” came into existence and fought such alleged religion. Science tried to break away from that dualism and materialism. But science exaggerated too much in opposite ways, and fell into the same basic errors.

The difficulty all along has plainly been that intellectuals exaggerated logic—exalted intellect, idolized words, and

got tangled with the One and Many. The commonsense man's correct (and genuinely Christian) One-immortality gives us real personality, and avoids such materialism.

As a truism of One immortality, *our individual personalities change*. Always, past or future, our selves are parts of the whole God or universe, and hence *fit*, or are beautiful and happy in an absolute sense. Our success as finite individuals consists of working until we do see that absolute happiness, which is always there to be seen. (Of course, many theologians say that immortality involves an *improving* personality. That *changing* personality agrees with the correct One immortality—but conflicts with official theological creeds; see Chap. 34.)

Truistically, our personalities can change so much that there exists no quantitative memory of previous *finite* personalities. We all know we have no memory of our new-born selves. That actual change *is* a genuine "forgiveness of sins". Sin is not absolute.

But, obviously, in a One sense we are *now* conscious of *all* of God, of *all* lives, in the past, present, and future. In that One sense, all past lives now remember themselves in us—have *changed* personalities, of course. Obviously, there is no other conceivable way in which any finite personality *could* survive. Truistically, there can not be *any* real or exact personality short of God—and he is conscious, in part, in each and every one of us; and is conscious as a whole, in, and as, all things.

If there is not enough of honor, dignity, happiness, sense of power, courage, union with loved ones, for any finite man in thus being a part of God, in ultimately being God himself and having memory of *all* things and a certainty of being part of the consciousness of all future things, then truistically such a discontented man must be intellectually insane. For no other sort of personality, any where, at any time, is really conceivable, or even consistently expressible.

CHAPTER XXXIII

CHRISTIANITY

§1

THE official doctrine of practically all so-called Christian sects, except the Unitarians, is that Christ was a *uniquely* divine person. I.e., the finite or Many person named Christ, *as such* (and hence uniquely), was an absolute One, was infinite, and was equivalent to the infinite God.

This whole book shows that that official doctrine is self-contradictory. The very statement of it, in the definite form just given, shows that the doctrine truistically is nonsense, or meaningless.

Obviously, the doctrine of the unique divinity of Christ, in a vague, highly confused way holds that *because* the finite, Many person Christ was exact, or absolute, or divine, *then* in some vague way all we other exact individuals can be divine or "saved".

From that point of view, the doctrine becomes simply a dogmatic effort to solve the One and Many, and to get rid of materialism (exactness), or be saved from idolatry. Because the dogma obviously had that laudable purpose, we can have deep sympathy with the theologians who formulated it. They were trying to go right; and the method they used did, in a dim way, state the truth:- they simply said that *somehow* there actually was no contradiction between the One and the Many; but as there still seemed to be one, then they would boldly (really dogmatically) declare that the One was the reality and ignore the Many.

Our intellectuals haven't yet improved upon that self-contradictory "solution by main strength and awkward-

ness". The renowned psychologist McDougall, whom Harvard got from Oxford, finds that there is the same basic materialistic, or "exact", trouble in orthodox psychology. So in his address as president of the psychologists at the last meeting of the British association of scientists (printed in *Scientific Monthly*, Sept., 1924), McDougall gives (in psychological terms) identically the same "solution" got by theologians many centuries ago. Millikan confusedly and with frequent reversals of himself, gives the same "solution" in *Science and Life*; and it is accepted by his "authorities". That merely shows that science, even after centuries, hasn't improved on the theologians.

Most people do not believe that Christ was uniquely divine. The Mohammedans, Buddhists, and so forth, don't. And so far as I can judge, most laymen even in so-called Christian sects do not; and Unitarian theologians do not. Quite likely nearly half the people now living on this particular planet never even heard of Christ. And of course, all the people before Christ *couldn't* have heard of him. So all that vast majority of men, according to our usual official theology are damned to an eternal hell, and to an unhappy life here, merely because they are ignorant of a bit of Many *information* or alleged history.

Officially, theologians thus give Many, or quantitative, facts the same absolutely essential importance that our scientists do. Their doctrine of a sole or uniquely divine Christ is materialism—essentially polytheism, even though it professes not to be such.

Personally, I somewhat doubt whether, as a historical fact, the *particular* man referred to in the New Testament as Jesus ever actually lived. So far as I can judge, it is rather probable that the commonsense men living around the east end of the Mediterranean in the first century B. C. got so disgusted with the exaggerations of the intellectuals of their day, that they formulated a general statement of the One truth, which was substantially the same as the one stated by this book as being held by commonsense men now.

In those days, if a man published anything that *convincingly* disagreed with the authorities, he promptly got silenced. E.g., John the Baptist soon got his head cut off. The authorities nowadays use more effective ways of silencing, as long as they can, a sound objection to their doctrines. To cut a man's head off, or put him in jail, advertises his views vastly too well, and hence is rarely done. The authorities in John the Baptist's case apparently recognized the danger, even in those ancient and ignorant days, of cutting off heads; so they passed the buck to the "flapper" we call "Salome" (*Matt. 14; Mark 6*).

Possibly several of those commonsense men wrote more or less anonymous books on fundamentals, attributing that sound religion to an invented hero. Gradually all those views, expressed as "parables" (a confessedly hidden or secret way), got attributed to a sort of ideal person they named Christ—to "Jesus of Nazareth", there apparently being at that time not even such a town. So far as I can judge, "profane" history and the four Gospels do not give convincing evidence of the existence of a historical Jesus. References to Jesus in contemporary profane history seem to be pious forgeries added later. The acts and statements the Gospels attribute to Christ seem to be symbolical. The Gospels often use names they refer to as "so-called" (i.e., fictitious); and use plainly metaphorical expression of the One truth, so as to avoid endangering the writer's head, and avoid being too unpleasant towards contemporary "authorities".

It is disagreeable to have to object to weak, ignorant contemporaries. Repeatedly in this book I find myself going easier on our intellectuals than I think they deserve—simply because for many long-run reasons it is better not to be unpleasant. I lapse into merciful abstractions and metaphors (parables) in dealing with them—just as perhaps did those commonsense men centuries ago.

In short, those men wrote the argument of this book, to the effect that *The related-Many* = *The One*; and possibly

stated it in the form of a novel, with Christ as the ideal and the objective "proof" of its truth.

§2

Consequently, genuine Christianity simply is what this book summarizes:- the general views of the commonsense man now, and for many centuries in the past. Genuine Christianity amounts to seeing that everything is continuous into God, and *each* man ultimately *is* God.

Common men in those ancient days expressed it by saying that men are the Sons of the One Father, and hence are *essentially* God. They asserted intimate *relationship*—and the intellectual leaders then, as now, officially deny any such relationship or identity. Those common men's *total positive doctrine* was *monotheism*—the Oneness or fatherhood of God or the universe. Their total doctrine, *expressed negatively*, was an attack upon what they called idolatry, or demons (orthodox Many gods), or paganism—upon precisely the same error or ignorant sin we call exact science, or materialism, or polytheism, or idolatry.

To protect themselves from the wrath of authorities, apparently those ancient commonsense men stated all that in veiled symbols, with an invented Christ as *one* example or "proof" of how a man *is* God. But they did so surprisingly well in showing concretely (i.e., "experimentally") that *a* man is God, that all the materialistic, "logical" leaders shortly believed that the invented example was a real, *unique* or exact God. The intellectuals, by that error which the logician Paul first emphatically made, thus shifted back from sound logic to the old materialism and dualism, which is anti-Christian or idolatrous.

Theologians base their logic and their church *chiefly* on Paul; and hence theology or ecclesiasticism is dualistic and materialistic, and flatly contrary to primitive Christianity—and wrong, as this book shows.

But, theologians in a tight pinch will abandon that Paul-

ineism which they usually preach, and revert to Christianity that is sound—just as scientists in a pinch, by admitting that their measurements are really *inexact*, will abandon materialism and verbally revert to a reasonably open mind for a minute or two. Thus both theologians and scientists are so mentally agile in being equivocal, revokers, “trimmers”, opportunists, turn-coats, that they themselves are (1) actually ignorant of the fact that they are; (2) don’t know how to be consistent; and (3) are hard for us to catch and pin down, either to right principles, or to the opposite pseudo ones they usually hold.

If you wish to see a detailed account of those possible historic facts about Christ, the most specific book on the subject is William Benjamin Smith’s *Ecce Deus, Studies of Primitive Christianity*.¹

¹ I can find no convincing refutation of the definite, extensive evidence Smith gives in *Ecce Deus* that Christ was symbolical. He shows that even the New Testament repeatedly plainly implies that Christ was not historic. Most theologians ignore *Ecce Deus*—which makes me suspect that it is unanswerable. But I hesitate to accept Smith’s proofs because of three facts:—(1) I am not well acquainted with the history he discusses; (2) that history is *not essential* to religion (as will appear more clearly later), so that there is no adequate reason why I should use perhaps ten years to become competent in it; (3) I do not consider Smith intellectually reliable. I have publicly shown that his epistemology or intellectual base is wrong (*Monist*, Oct., 1924). His *Ecce Deus* takes it that the historicity of Jesus is *essential to Christianity*—a stand which is basically wrong. He is a mathematician, and like most mathematicians indulges in unreliable word juggling, which he seems to consider essential. But on the other hand, I can find no trace of historical discrepancy anywhere in *Ecce Deus*. So if Smith were basically sound in principle, I should trust his historical facts, and conclude that in all reasonable probability there was no historic Jesus. Under the circumstances I must simply conclude that I can find no convincing evidence that there was a historic Jesus, and there is strong evidence to the contrary. — There is nothing novel about doubting the historicity of Jesus: the New Testament itself states flatly that “many” deny there was any Jesus “in the flesh”—in 2 *John* 7, which was written about A. D. 100 (*Ency. Brit.*, XV, 450; see also *Ecce Deus*, 137). The three so-called “epistles” of John contain no special idea except a purely dogmatic tirade against (apparently numerous) Christians who held that Christ was not historic. Those *Epistles* are, in my opinion, soap-box oratory of extremely low intrinsic merit—far below the usually exalted and basically sound New Testament. The very fact that the theologians who compiled the Bible considered it needful to include proof of Christ’s historicity, together with the painfully dubious and low-grade character of the “proof” they had to use (as being presumably the best they could find), is to me strong evidence that Christ *was* symbolic. And that is just one indication among many to that effect. Smith doesn’t even use that indirect indication. On the opposite side of the question, you can find an excellent brief summary of all the arguments for the historicity of Christ (with bibliography), in Chapters IV, V, of Georges Berger’s *Some Aspects of the Life of Jesus* (translated 1923). That summary states no point that seems to me to be sound. I wish it did; for I should prefer not to be classed, even tentatively, with some of the modern radicals, like Georg Brandes and Bernard Shaw, who deny the historicity. But the facts seem to be as I have stated—and it is suicide-by-stupidity not to stick to facts as well as we can.

For some of the details as to how the intellectual Paul contradicts Christianity, see I. Singer's *The Rival Philosophies of Jesus and Paul*. Numerous books by theologians have for years vaguely objected to various obvious, anti-Christian errors in Paul's doctrines.

Of course, the *principle*, the essential or *religious* truth, is that the historical question about Jesus is a Many, *scientific* one, and can not be absolutely or exactly settled. *The principle is that it makes no essential or religious difference whether or not there was an actual historic man called the Christ; or whether his reported views were, or were not, contradicted by a man named Paul (a man who with overwhelming historical certainty did exist).*

The essential point is that a certain principle is right (namely:- that each man finally really is God); and that the opposite theological doctrine is wrong or materialistic (namely:- that a particular man is *uniquely* God)—and is wrong, *regardless* of who that man is or was or might have been.

So we do not really need to know what the historic facts are. Authorities who quarrel over them, and insist that one or another solution is essential (as do Smith and theologians), are mistaking the Many for the One—are materialistic or irreligious under the guise of being religious.

Of course, the *practical*, quantitative fact *truistically* is, that even if there were no historical Jesus, yet the men [or man] who invented and slowly built up that exalted character in the New Testament, as proof and expression of the ultimate truth that man *is* God, were themselves, collectively (in their *better* moments, perhaps), the Christ or Jesus. Some *one* man of course *first* invented the character, and was thus, in that *unusual* sense, historically Christ. But, the Christ described in the Gospels is actually a mixture of a number of inventors or writers—rather clearly six or seven, and *probably* of several hundred. And the ideal "Christ" we common men *now* worship is no longer even that Gospel Christ; but *is actually a sum of all the*

sound or moral good sense of literally millions of our fellow men—frequently unavoidably mixed with a little vicious bunk accepted from theologians and from Paul (e.g., mixed with Paul's diseased or insane views on sex and marriage).

Some of the views attributed by the Gospels to Christ are plainly wrong. E.g., he is made to assert that the stars shall fall from heaven and there would be a general smash-up of things, and people shall see the Son of Man coming again on the clouds of heaven, and that "this generation shall not pass away till all these things be accomplished" (*Matt.* 24). We know that such Many events did not happen as predicted—and incidentally never will happen, in any even remotely literal sense. But if we subtract all such Many frills, as being the best scientific guesses and artistic literary "pep" of that day (and they are not a bit more silly than Russell's weirdly nonsensical modern science), and further subtract numerous theologically forged or fraudulent changes in the originals, there remains a summed picture of a wonderfully great man. The *very existence of that picture* proves broadly the fundamental truth that man is God, or the related-Many is the One.

That picture is thus the picture of the common average man; and that truth, and the practice of it, is the profoundly right knowledge, and virtue or right practice, which the common man has always had and displayed. *Literally*, the voice of the people is the voice of God.

That is all the substance of genuine Christianity. It plainly has never been *officially* tried. The church or theologians or our intellectuals have never accepted and used it in its simplicity, but have combined it with a large amount of Paulineism, ecclesiasticism, or materialism.

Of course, average men have from the beginning of the race tried it—and it always worked. Truistically, the race would have died out ages ago if common men hadn't from the beginning used genuine Christianity. Only on the recurrent occasions when the average man got lazy, and unduly trusting and credulous, so that the intellectuals got the upper hand and misled him, has there been trouble.

Just at present we are having another rather acute bit of trouble, because we have unduly trusted the intellectuals. They got us into the war, and now they sneer at us. According to the newspapers, Dean Inge, a leading theologian, says that the voice of the people is the voice of a parrot.

But God speaks through Dean Inge, just as he does through us, and through parrots. When he uses the gloomy Dean's voice, he naturally says he has a pain in the part we name the Dean. The voice of the Dean is the voice of God's belly-ache.

CHAPTER XXXIV

THE SO-CALLED CHRISTIAN CREED, AND THE CHURCH

§1

BECAUSE the last chapter gives the essentials of genuine Christianity, there is no real need to examine the official doctrines of the theologians, and observe that mostly they aren't genuine Christianity, but are a little truth mixed with much Paulineism or materialism.

However, it will make us more sympathetic with theologians, and it may be interesting, if we run through their Apostles' creed briefly. That is substantially the official belief of most so-called Christian theologians.

For the extremely complicated technical aspect of this matter of creeds, see *Ency. Brit.*, Art. *Creeds*. The Apostles' creed is a short form of the Nicene creed, which latter is practically the legal or canonical creed of most "Christian" ecclesiastics. The so-called Christian churches, and frequently nations, have fought with varying violence for centuries over various abortive efforts to solve the One and the Many. The resulting technical canonical laws and creeds are their *legal* solutions—which are almost hopelessly complex, and would fill many volumes.

The Apostles' creed is usually given thus:- "I believe in God the Father Almighty, Maker of heaven and earth: And in Jesus Christ his only Son our Lord: Who was conceived by the Holy Ghost, Born of the Virgin Mary: Suffered under Pontius Pilate, Was crucified, dead, and buried: He descended into hell; The third day he arose again from the dead: He ascended into heaven, And sitteth on the right

hand of God the Father Almighty: From thence he shall come to judge the quick and the dead. I believe in the Holy Ghost: The holy Catholic Church; The Communion of Saints: The Forgiveness of sins: The Resurrection of the body: And the Life everlasting."

"God the Father Almighty" may be accepted as the One, and is correct. "Maker of heaven and earth" perhaps implies dualism and materialism. A later clause, "on the right hand of God the Father", does definitely assert dualism and materialism, and is absolutely wrong. The creed *strictly*, thus asserts that God is the One, and then contradictorily tries to make God finite and Many, or only a part of the One.

The creed then asserts that Christ is God's *only* son—which, as we have just seen, is materialism or polytheism, and absolutely wrong. Possibly there was not even a historical Christ. But even if there was, in the very nature of things he could not have been an only or absolute or second God—or "very God", as the Nicene creed puts it.

One party in the Nicaean council that legalized this creed (A. D. 325), held in a vague sort of way that, as a finite person, Christ was *not* absolute God. Some historians say that there were fist fights and rioting among those Nicaean theologians over the question. The defeated party (who were *vaguely* right—the Arian "heretics") were afterwards vigorously suppressed, excommunicated, assassinated, exiled, and so on; and various national wars over the matter kept up for centuries.

That question of Christ's absolute uniqueness was really directly connected with, or identical with, secular and ecclesiastical politics, or privilege, or economics—which accounts for the fights. For, according to the intellectuals' unsound classic logic, if the individual Christ was "very God", then by that classic logic it directly followed that there was "divine" or absolute "right" of individual kings and priests. But if Christ was a man, then obviously *all* men were ultimately God, and there could *not* be any

special divine right, or honest graft, of kings and priests—they lost their legal title to easy, lucrative jobs. If Christ was a man, and not a second One or second God, it would follow that our American sort of Constitution is right—and each man could have only what he earned, and would not be “privileged” or permitted to grab things in the name of a divine Christ (which theologically is called *apostolic succession*).

Thus the wars over this question occurred for precisely the same *basic* reasons that our Revolution and our Civil war occurred. Wars over the same question haven’t ceased yet. For, the Nicaean council declared for materialism—i.e., for an absolutely divine or dualistic Christ. Our modern intellectuals similarly decided in favor of materialism, and we had the world war. In the very nature of things we shall keep on having wars until dualism and materialism are decided *right* by our leaders—until they decide that such absolute separation or distinction (“divinity”), which truthistically involves essential conflict or war, is not right. Those who hold to an “*only* Son”, or to “exact electrons”, or to *any* sort of ruler or authority who is *essentially* absolute or superior or “divine”, are basically committed to wars, jingoism, grabbing, or materialism.

The phrases “conceived by the Holy Ghost, Born of the Virgin Mary”, assert that a finite man was born of a finite or Many woman without having an ordinary, finite father. That is a Many, scientific assertion of a biological event which in principle *could* happen (although it probably didn’t), but which, if it did happen, proves nothing about the unique Godship of the finite child. Plenty of insects, and so forth, *are* born without a finite father; and that doesn’t make them uniquely divine or second Gods.

Indeed, according to the Bible itself, both “Adam” and “Eve” were made *directly* by God, *without even a mother* (unless Adam was the mother of Eve). And that, according to such credal logic, would make Adam and Eve *twice* as uniquely divine or Gods as Christ. Such “logic” is obviously nonsense. But if theologians insist on such verbal

quibbling in their creeds, they should be honest enough to stick to it, and get that comical bosh about "Adam" and "Eve".

The next few phrases, beginning "suffered under Pontius Pilate", are Many or scientific statements. There is no reliable historic evidence, so far as I can find, that they are correct—and much evidence that they are not: indeed, much evidence that there was no such man as Jesus, to have those or any other things happen to him. But even if those credal assertions *are* all historically true, they are still Many statements, and are truistically no more, and no less, essential in a sound religion than the Many fact that snow is usually white.

I.e., the worst thing about this theological "religion" or creed, is not that it isn't true, or is doubtfully true, as regards fact; but is, that even if the facts alleged *are* true, they are mostly irrelevant. The tragedy of this creed is that it mistakes the *nature* of religion, and talks about a lot of materialistic or scientific facts (or alleged facts) as if *those particular* facts were *essential*. There are almost an infinity of *other* facts which are each *just* as essential in degree or quantity.

Even if Christ did rise again from the dead on the third day, it is a Many fact, not absolutely essential. Numerous men have been medically dead, and were resuscitated. I was myself, once; and that doesn't prove that I am a *unique* God; and neither does it prove Many immortality, nor that I am now in heaven, nor that there is a hell.

Christ's asserted second coming to judge the quick and the dead, is obviously a Many, materialistic claim that is wrong in principle. It almost explicitly asserts that a *continually just* universe of action-reaction does *not* exist, and hence that no God exists.

To "believe in the Holy Ghost" is, in the usual sense, to believe in the existence of relationship, and is sound.

The "joker" in the creed is acceptance of "the holy Catholic Church". That clause of course means that ecclesiastics are to be accepted as holy (i.e., absolute) au-

thorities or Ones—with accompanying jobs, privileges, and vested divine power. That power is already *implicitly* provided for, as we saw, by the “only Son” clause. So the *Nicene* creed tactfully omits this redundant, actually weakening “Church” clause in the Apostles’ creed. The Nicaean council were a shrewd crowd, who didn’t boast of their power, and wrote their alleged titles to it as quietly and inoffensively as they could.

The Catholic clergy frankly claim infallibility for their pope in excathedra pronouncements on faith [i.e., religion], and on morals [i.e., science expressed in human terms—as *all* science of course can be: indeed, Pius IX, in his Encyclical, Dec. 8, 1864, bluntly claims infallibility in every subject]. The Protestant clergy aren’t so directly honest as the Catholics on this point, but substantially claim that the *Bible* is thus infallible or a perfect One—evading the fact that *they* first select, and then interpret the Bible, just as the pope does. So in the Protestant church, officially there are merely many clashing popes, instead of one at a time.

Therefore, by ecclesiastic laws, and by everyday morality about contracts, if we say we believe this “holy” or absolute “Church” clause of the creed, and then join the church, we contract or promise to follow and obey ecclesiastics in all matters of religion and morals—which in principle amounts to all matters.

That essentially amounts to making the ecclesiastics absolute autocrats—and truistically glaringly conflicts with our duty as citizens to uphold our non-autocratic Constitution. Hence, if we claim to uphold the Constitution, acceptance of that clause of the creed is in theory at least dishonest. Also, the clause is flatly *irreligious* in principle—is essentially wrong.

In short, in official credal statements, most churches claim absolute authority, superior to civil authority, vested in them by a uniquely divine (i.e., absolute) Christ. (Protestants are vague and evasive on the point, and hence *practically* don’t hold it: Roman Catholics *explicitly* claim such authority, in the Encyclical of Pius IX, Dec. 8, 1864,

clauses in Syllabus numbers 20, 24, 55, 57.) That self-seeking claim is flatly contrary to true principles, is irreligious, and contradicts our Constitution in principle. As obvious fact, churches in America do not especially try to practice that wrong principle.

The communion of saints, forgiveness of sin, and the life everlasting may reasonably be considered to have a One sense, and be correct. In a Many sense, they would be absolutely wrong.

The last remaining clause of the creed, "the resurrection of the body", in the ordinary and canonical senses of its words is obviously absolutely untrue and impossible. To assert the resurrection, and implied eternity, of *any* finite body—Christ's or any man's, or any electron's—is polytheism and materialism. There can be no exact science.

§2

Thus, it is more or less evident that our churches have for centuries been trying to solve the One and Many; and actually have, *in a rough way*, stated its solution in the usual creed. The chief error the churches have made is in attempting to assert that Christ (a finite Many man, or group of men) was, as such a man, absolute God. That attempt is materialism.

But obviously, that was an effort to state the real truth:—that every man *ultimately* is God. Christ himself, or the group of men who spoke as Christ, declared rather clearly in the Gospels that man is God, and has One immortality, and *ultimate* perfection, power, and success. Christ (or the group that was Christ) even went so far as to say that his *expression* or logic was not certain or explicit.

But that actual truth about *every* man, and the temporary uncertainty of Christ's logic, (1) was a little more than intellectuals then (or now) could see. Also, (2) to see it, would conflict with their selfish or dualistic desire for power and privileges—a fact which greatly helped to blind them. Also, (3) intellectuals are ordinarily unduly ego-

tistical or immodest; so they make-believe a modesty they haven't got, and hence wouldn't dare say they were God even if they thought they were.

So the intellectuals, following Paul and including our scientists, have for all these centuries confused the simple truth with their queer materialistic and timid approaches to the truth, and with the equivalent bunk about exact or "divine" electrons and atoms.

Interpreted *strictly*, the creed asserts the exact or unique divinity of Christ, and hence is generally wrong. In detail, it exhibits (1) the trivial irrelevance and timidity of the intellectual or "logical" mind, and (2) the (perhaps often unconscious) grabbing for selfish power.

But of course, the average layman through the centuries hasn't taken the trouble—usually didn't have time, after making a living,—to interpret that creed *strictly*. From his commonsense point of view, the creed did *broadly* imply the solution of the One and Many—roughly stated the Trinity, in the broad formula *The related-Many = The One*. And of course the layman never got any selfish advantage from the creed, and hence paid slight attention to the joker in it. He usually didn't even suspect that the joker amounted to a wrong materialistic or polytheistic divine right of kings and priests.

So *the creed in a rough way actually was truth to the layman*. It has been to him the sound commonsense he has always known, that was perhaps most clearly taught by Christ or the Christ-group. It actually has given most laymen happiness and abundant life.

But at the same time, it has tended to cause the clergy and other leaders who "profited" by the joker, to become hypocrites, dogmatists, and trivial weaklings. The "profit" was spurious—was long-run destruction. Of course, many priests haven't paid any closer attention to the creed than laymen, and have not had their characters spoiled by it.

Consequently, we laymen may, with fair *personal* safety, continue to use this creed *as ritual* if it is agreeable to us. But because the creed does cause our intellectual leaders to

fail, it would perhaps be wiser and more unselfish on our part if we would gradually give up its use even as ritual. For *strictly*, this creed (1) flatly contradicts the principle of our Constitution, (2) flatly asserts the divine or absolute right of all ecclesiastics, and then the similar autocratic right of all political and economic leaders they endorse, (3) flatly asserts exact or materialistic science, and (4) is in large part trivial and irrelevant, and hence truistically is intellectually debauching if taken seriously.

It is dangerous for us commonsense men to use as ritual something often interpreted by our intellectuals in that most erroneous way. We should take better care of our intellectual leaders than to expose them to such a temptation to fall into their usual materialism and autocracy.

§3

That brings us to the question, whether the organized church should survive—whether we should support it.

We all do actually support it in some degree by not taxing church property. Church members and some others support it directly.

In a wider, finally One, sense, *all* social organization is explicit recognition *and use* of relationship or the Holy Ghost—of the religious truth that we are finally God.

Thus, all family life, all business, all government, all social organizations *really* constitute the “church”—*are* religious organization, or make a unified ‘church’. Such a *general* ‘church’ truistically should survive. As a practical fact, we all (except the species of radicals named anarchists) tacitly agree to that, and strive to maintain that genuine catholic church. The only question about it is the practical one of degree, of temperance—of just *how much* (1) “centralization of government” (bureaucracy, and government ownership), and *how much* (2) “individualism” or “states’ rights”, is the best balance. The amount changes, with circumstances. My guess is, that at present we have considerably too much centralization, or ‘church’

in this broad sense. But the *extreme* or One infinite limit of centralization is required by the creed:- absolute autocracy, or "divinity" and "infallibility" of leaders.

So the question as to whether the "Church" in the ordinary restricted, technical sense should survive, is obviously a Many question.

The answer is, that it truistically is not essential that it should, or essential that it shouldn't; but is simply a matter of practical judgment or quantitative guessing as to what is best for most people. Nobody *knows* what is best—or ever can *know*, it being an infinite regress. As I am naturally conservative and cautious, my guess is that we had better try to keep the church, because there are many people who would be severely damaged if their useful rituals were suddenly taken from them.

However, I personally do not go to church, or support any church directly—and don't intend to until such time as numerous ministers accept Christianity. I especially do not wish to appear to support the church as it now usually exists. Also, there are so many interesting things in life that I no longer have time to listen to theological trivialities and make-believe. The average play, or book, or newspaper, or game with a child, is to me vastly more genuinely religious than the ordinary sermon.

Also, I shouldn't dream of letting a child of mine be exposed to the ordinary sermon or Sunday-school, without afterwards exploring his mind, and removing the erroneous ideas he thereby acquired. I finally decided that such churchly perversion of children was damaging, even under such care to counteract its misleading. In brief, it is my emphatic judgment, after actual trial, that children of moderately commonsense parents had better be kept away from present-day churches and Sunday-schools. And I hold that opinion even while recognizing that the child, if kept away, will tend to get the damaging, and dangerously erroneous, idea that "religion" is unessential. I.e., I believe it is better for a child to go rather hungry and under-

nourished, than to eat decayed, poisonous food—although either choice is bad.

In short, although I believe in genuine Christian religion, and can and actually do prove that it is right, and is the most important thing in life; and although I desire to see the organized church survive, and think it is best for most people that it should; yet I am repelled by the average church, and am strongly of the opinion that children had better not be even exposed to the mental poison of orthodox theology.

That necessarily implies that theologians need to break away from their errors, and learn some real religion. Theologians of course in nearly all cases deny that they make any essential error. If they do not change their minds, it *truistically* follows that *the organized church must sooner or later disappear*. I hope that they can change their minds in this. But my knowledge of men's minds leads me to guess that those of this generation usually won't—that in most cases their mental habits are so bad that they *can't*. Therefore, even if the organized church does manage to survive, probably it will be a generation or two before it will be safe to entrust children to it.

That judgment naturally will be ignored by theologians as long as possible. Then they usually will merely deny its justice, and will attack my competence, and probably my good faith in reaching it. *You* will have to decide who is right.

I call your attention to the fact that I have shown definitely, and in detail, just how and why the so-called Christian theology is wrong, and contradicts not only the Christ's doctrines, but also your own actual views—your own commonsense, business principles, and Constitution.

And I request that you notice whether or not clerical denials pay any attention to those essential points. If they do not, I further request that you decline to be confused and let them evade those points, but insist that the theologians show *specifically* where and how this commonsense

of yours, which I have merely written down for you, is wrong. In short, don't let them bluff you.

If, however, the theologians (or any other intellectuals) say that this genuine Christianity and commonsense is what they have believed—and the wiser ones will,—then all we can justly say is that we are glad we agree now, and that of course we knew nobody ever actually could believe the Pauline materialism, as strictly such polytheism is not believable. And next, it would be a good idea to increase the salaries of such intelligent intellectuals. They will, with such a commonsense foundation, earn more than the starvation pay they are now properly getting.

CHAPTER XXXV

CONCLUSIONS

§1

THE Villain of our drama of life is discontinuity—a break, or contradiction, or apparently blank hole, in life.

The Villain, or Evil, is thus impersonal or unreal—is simply a failure to see, a missing of conscious life in spots, a blind and ignorant blundering, a loss of some possible life, always with resulting fear and pain. That Villain or Devil is more definitely named materialism and dualism.

That Devil, which is an *absence* of perceptible life, is often set up as being life, and named agnosticism. Or, the absence of truth is asserted to be the truth—non-Being to be Being, the quitter to be a success.

The Devil is thus called God, and even sentimentally named the Unknown, by Herbert Spencer and scientists. We ask the scientists for bread, and they offer us agnosticism, or the hole in the doughnut. The tragedy of that comedy is that they really believe that hole is bread—the bread of life.

Commonsense men have always through history recognized that the Villain is discontinuity. They have always objected to irrationality or “foolishness”—to a break in cause-effect, or connection, or relationship. They have always objected to a man’s breaking his contract or word—to discontinuity in social relationship. They have always objected to having to listen to anything that wasn’t “news” or interesting—to anything that isn’t obviously closely or continuously knit together in its *own* meaning, and isn’t also further obviously connected to their own lives in the past,

and to their lives in the future by being "useful" or practical. They have always objected to undue specialists or radicals or idolators—to men who exaggerate or deceive: who "academically" go so far in any line as to lose continuity, or "touch", with the rest of life.

In short, commonsense men obviously have always through history known clearly what the Devil is, and have objected to that discontinuity in its various aspects. It is convenient to give that death or Evil or Devil the general name *materialism* or *dualism*—or the name *agnosticism*, when the Devil is disguised as God or truth itself.

Although the Devil or Villain is impersonal or unreal—is simply an *apparent* break in continuity, or an *absence* of perceptible life,—yet that Devil has many human or individual advocates.

Those partly dead humans who urge us to accept discontinuities are the *personal* villains or devils in life. They are the materialists and agnostics—including the dualistic theologians.

Obviously, in the very nature of the case, those human devils or villains—our intellectual leaders, and various excessive specialists—are not *purposely* devils. They merely haven't got any better sense.

They are the chief and first victims of their own deviltry. *They suffer vastly more from the discontinuity they urge, than we do*—we who are suspicious and doubtful of it even when we tentatively try it a bit.

Of course, a *few* of those villains consciously try to grab special advantage or privilege for themselves. We saw the theologians putting a joker in their creed; and quite possibly some theologians today have intellect enough to be conscious of the meaning of that joker. And many profiteers put jokers in our laws and customs. But probably most of those grabbers are *convinced* that the race itself is effectually discontinuous, and that *they* belong to a higher, privileged class that essentially deserves those discontinuous or autocratic privileges. Kaisers and most intellectuals still believe in their divine superiority.

So in that wider sense, even deliberate seekers of privilege and honest graft are not deliberately devils. They actually believe in the discontinuity which permits selfish grabbing—they believe the Devil is God, and try to follow that Devil.

So our villains are simply fools—are men with defective, blocked nervous systems, tending more and more towards the disease named paranoia or swelled-head. For that reason, obviously we can not rationally “hate” them. We can not correctly believe that they are trying to harm us, or that they have wicked designs upon us, or plot against us. They are just fools. That is the meaning of “Father, forgive them, for they know not what they do.”

We can laugh at their stupidity and clumsiness, and also feel pity for the pain which their bungling brings *first to themselves*. Being a fool is painful.

In short, although such poor half-witted devils do exist, we need not take them seriously as being really evil and purposely wicked. They are merely fools. *They* pay for their errors in pain. They pay by largely dying—and then by living partly dead, losing more or less of the happiness and success of life. They pay a terrific price for their foolishness, even if a few do manage to collect the title of *bishop* and a little honest graft.

§2

But even so, we can't reasonably permit such villainous bulls to run loose in our china shop. Just as a bull is a desirable animal in his place, so are those human devils useful examples to us of how *not* to live, or of the pains of being a fool, *if* we keep them in their place. Many of them are incurable by any means now known. Probably there always will be some with brains defective beyond known methods of reconstruction.

So we simply have to keep those villains under control. There is nothing novel in that suggestion. Governments and legal laws have been made throughout history for just

that purpose. We merely now see clearly that laws should not be vengeful, vindictive, rancorous, or "punitive". The villains are not *purposely* devilish. Hence, they do not deserve hate. Also, it hurts *us* to feel hate, revenge, or rancor towards them—it truistically tends to make us believe in discontinuity, spoil our digestions, and become villains or failures ourselves.

But although their "intentions" are good, or their "motives" are not "bad", yet those villains do not therefore deserve "freedom" and coddling, as the sentimentalist holds. They are, as Many individuals, responsible in whatever degree they tacitly accept the right (actually, the *status*) of living among us, making contracts with us. If they are incapable of meeting that responsibility (of "meeting" ordinary contracts or laws), it follows truistically that *we*, in our free One aspect, are *obligated* to control them.

That rigorously eliminates the sentimental "scientific" plea of many psychiatrists and reformers, that criminals are not "responsible". In the degree they aren't, *we* are responsible for keeping them definitely in safe control, without any slack coddling.

But of course, for our own good we should be as merciful, or tolerant, towards villains as we can afford to be. We should offer them more of credit, than in strict justice we think they have earned. In my opinion we do. I.e., I think the average man in this country is now better, more tolerant, more temperate and just and intelligent, than at any time before in the world's history—and that as a result he is happier, more religious, more of a success. We are by no means angels. We are merely an improvement in those ways over our ancestors—there having been plenty of room for improvement, as there still is, and always will be, this world not being "exact" or finished. As a matter of fact, I am inclined to guess that often we are *too* tolerant—are a bit lazy about being just.

So we must in some measure control the villains who just now are probably most dangerous to us:- the intellectuals,

especially the scientists. Those poor devils don't mean to be villains. But that doesn't justify us in letting them run wild.

Truistically, how much, or what, control is needed for intellectuals, is a quantitative question which everyone must judge for himself. My guess is, that if we (1) look with disapproval upon them, (2) begin to stop their salaries, and (3) either keep our children away from them, or else warned of them—that if we do those three things, shortly those intellectual leaders will make a real effort to see the truth, and many will succeed. The incurable older ones will probably keep a discreet silence—except to wail that the world has gone to the dogs. They have wailed that through history: their more poignant howls may be amusing.

Indeed, if you are so busy making a living that you can do nothing more than to advise your children to be cautious about believing our intellectuals, I judge our children alone can effectively take care of our leaders.

But if we don't care to exert ourselves enough to control these most dangerous modern villains, then as a truism things will get worse until we are forced by increasing pain to do it—or else things will get beyond practical control, and we shall get considerably killed off by another war. War itself is the maximum degree we can go, *in actual practice*, towards discontinuity. War is quantitative or Many hell, which in practice forces us for a while to stop immorally trying to reach the impossible absolute hell of dualism and materialism which our leaders recommend.

All that is the summed up negative aspect of our commonsense. We may now work up to the positive or “constructive” aspect.

§3

Intellectuals are wailing so much nowadays chiefly because once again in the history of man their materialism has accumulated in undue measure, and it hurts them—hurts them far more than it does us.

I can't see that average men, the great "middle class", are materialistic and failing. As I said, I think we are now more clearly and balancedly grasping and using the truth than ever before. Also, it seems to me that our climate, or general environment, is stimulating, and is likely to keep on being so for some centuries at least, giving us health and energy. (The causes and probabilities of our climate, our physical Providence, are given in some detail in *Universe*.)

Thus the facts seem to me to indicate that we, in general, are likely to continue in happiness or success. I may be wrong: it is a quantitative guess. But I know the principles upon which such judgments depend—which is vastly more than our wailing intellectuals know.

Common men have acquired a working knowledge of the apparent paradox which intellectuals have never been able to see:— that a successful life is a temperate balance between (1) the finite, prosaic, neighborly or governed Many; and (2) the infinite, ecstatic, mystic, individualistic free One. The usual intellectual is a radical who insists that one, or the other, of those two is "right"; but not both. He dualistically says we must take one as primary—and ignore, deny, scorn the other.

So we average men achieve what our leaders consider "illogical" and impossible. Our scientists nominally recommend the Many as "real", and our theologians nominally recommend the opposite One. So we often can actually profit by "following" *both* sets of leaders, even though they verbally conflict. We may note just how we do that.

We "follow" the theologians, and grasp infinity or God or various ecstatic or mystic rebirths—and ignore the numerous theological errors. We "follow" the scientists, and gain useful everyday Many knowledge—and ignore scientific errors. We succeed, where they fail, because we do not follow either of them to their crazy extremes. We "follow" only so far as we can keep our "head", or balance; and we then correctly combine the two views into *The related-Many = The One*.

We can observe a maniac, and *in a lesser degree* "follow" his mental processes (duplicate them *mildly* in ourselves; i.e., "see" them), and thus learn and understand much about our own better-working mind. Indeed, a maniac is on occasion highly interesting. All of us like to read about such abnormal psychology, or "news", in the papers—up to a quantitative point where we feel that we ourselves are vicariously acquiring *too much* of the same abnormality. When we reach that point of "sensitiveness" we begin to be offended, disgusted, "fed up".

In precisely the same way, we normal people profitably "follow" our leaders. So long as we don't go too far, and take them seriously (believe that it is normal and desirable to be grossly exaggerated, as they are), we profit. Our own mind grasps more of the Many by watching the scientists go crazy over it; and becomes more happily conscious of the One by watching theologians go crazy over *it*.

E.g., this book briefly follows our leaders out to the ends of their chief intellectual exaggerations, and takes all those and balances them into an *intellectual* statement of the truth (*The related-Many = The One*). I had to omit nearly all of the numerous volumes of *emotional* details—the familiar, "moving" details of our married life, children, taxes, food, health, play, money, property, high cost of living, society.

The book is therefore simply one of the temporary "followings" of our leaders. No commonsense man would for a minute think he had to "remember" or "grasp" *all* this intellectual stuff—or think that it has any appreciable value except in so far as it enables us to understand and enjoy all those "little things", or emotional details, of taxes, food, and so on.

I shouldn't dream of trying to remember all this intellectual stuff myself. If I were to write another book on fundamentals tomorrow it would largely "follow" other villainous leaders and *their* particular intellectual fanaticisms, and show *their* final failures. Of course that book

would *mean* the same. There is only one truth:- *The related-Many = The One*. But there are an infinity of ways of expressing the truth; and each of those ways has its Many advantages and disadvantages.

This book is successful from your point of view if it gives you a grasp of that simple truth which is slightly clearer than you had before—which lets you connect *your* emotions together better, so you know where you are going and what it is all for. After that, the more you express that truth in your own terms, forgetting mine, the more successful the book is to you.

§4

Our professional leaders erroneously believe that a leader is *exactly* or divinely right, and therefore intrinsically or essentially deserves following. Nothing can be more wrong; for that is absolutely wrong.

The average man is the true, sound leader. He ecstatically grasps the One, and acts in Many terms (sometimes in words; more often in making “things”) that express or show such final life or success. He expects and wants nobody to “follow” him. He resigns or repudiates all “leadership” or authority or infallibility at once, and enjoys watching others see the One from *their* point of view, and express it in *their* Many acts. He that loseth his life in the One shall find it.

There always will be professional, exaggerated “leaders” (on other planets after this one)—men who are mentally unbalanced in some of the infinite possible ways, and who have energy or vigor to begin with. In the nature of things, (1) such abnormal men must occur—just as there are and will be (2) unbalanced men of less energy who are the ne’er-do-wells or weaklings. It is not always possible to be sure in which of those arbitrary classes some unusual men come—Napoleon and Rousseau, e.g.

Truistically, it is possible to control (i.e., decrease) such human unbalances in some degree by controlling ourselves

(education, training), by controlling the environment, and controlling births (eugenics). But it would take infinite effort for us to control those things absolutely, and eliminate *all* considerably unbalanced men. We always in practice find it expedient to stop such effort at control at a reasonable point. It obviously is silly for about three normal people to spend their lives coddling each defective—even though *nominally* attempting the practically impossible task of developing him into a self-supporting person. It is equally damaging to us to neglect the care of the abnormal too much. We have to be balanced—whatever that “reasonable” amount is (it varies).

So always we commonsense people will have to guard against our leaders. The price of liberty is eternal vigilance.

Always we shall have to be careful not to take their excesses seriously. The minute we do—the minute we seriously “follow” them,—we truistically are their “slaves”, their dupes; we are clay in their hands, or gun-fodder for their crazy dreams of power and glory, or easy picking for their selfish grafting or profiteering.

As a fact, such enslavement would serve us right—we should get justice, or precisely what is coming to us. For *we* have no business being such fools as to let our leaders mislead us. It is always fairly easy to see the errors our leaders make, and decline to follow. And always we must keep our children protected enough from them.

Our leaders have often noticed that we average people do at various times get lazy, and as a natural result are for the time being somewhat misled and exploited and benighted by them. They then pour scorn upon us for our incautiously getting misled. We deserve it—even if it *is* high comedy to see the leaders thus unconsciously complaining because we for a moment took them seriously while we rested from our age-long job of keeping them tolerably balanced.

The price of liberty is eternal vigilance. If we common people drop for a minute the burden of being the actually

responsible leaders, we pay—high. Our nominal leaders, in the nature of things, tend to be irresponsible, reckless experimenters.

§5

Although there has not been space to show it, I think it is a fact that average men are so sound and right today that already most of our business men are well balanced or moral.

Most of the “work” of our lives consists of business (including “industry”)—of dealing with the Many from an economic point of view. So far as I can judge the facts, most business men are sound, commonsense men. Some of them display great energy, which they use with due regard for the rights of everybody.

Business is technically an extremely complicated affair—far more *perceptibly* so than the usual “scientific” problem. And my observation has been that business men are usually technically, or in a Many sense, rather poor at their job—although better than at any time in the past. The sciences of economics (including accounting, banking, and especially selling and distribution), of management, and of advertising, are scarcely started yet.

I have had to omit those sciences from this book because there is no accepted vocabulary in which to talk about their simple principles—and anyway, business men know those principles better than I do. The construction of an intelligible vocabulary would require volumes. E.g., for about three centuries authorities have been disagreeing as to what is real or “sound” money. The answer in terms of the One and Many is extremely simple and convincing. But that three-centuries-old quarreling vocabulary makes it impossible to say convincingly what sound money is, in less than three chapters. The practical conclusion of such chapters would be that it is not safe (now, at least) to trust any government with “paper” money: but many people now disagree with that.

Of course, there are some profiteers even in business, but mostly in other professions—a small percentage of men with the materialistic idea that merely quantity or size is success. They grab ruthlessly. The natural result is that they hurt others; and inevitably the reaction hurts them worst.

They may pretend to be hard-boiled and callous. They actually do become increasingly callous—i.e., increasingly dead, insensitive, bored, restless, and puzzled as to what life is good for anyway. That is their punishment for grabbing; namely, personally failing or killing themselves slowly. Their pain shows up in bad health, trouble with their wives, helpless despair at seeing their children go wrong, suspicion of people, continual fear of “competition”, secretiveness, evil temper, unhappiness they can’t account for, and other abnormalities. They obviously pay more for the money they grab than they can possibly then buy or have for the money.

The remedy for selfish grabbing in any vocation is general recognition of those simple and easily seen facts. No man, who isn’t crazy enough to take our intellectuals seriously, would then even dream of profiteering.

§6

But after all, the positive or “constructive” conclusion of this book can’t definitely be summarized into less space than the book itself. That conclusion broadly is, that the common man is ordinarily right and sound—that the voice of the people is the voice of God.

The final sum of truth is that God, or perfection, or infinite beauty, goodness, justice, or happiness exists.

By the nature of language, expression of that truth requires scientific, inexact, imperfect, partial Many details. In order to state the One understandably, this book paradoxically had to deal at length with the Many. We similarly achieve success and happiness indirectly or “paradoxically”—by dealing correctly with as much of the prac-

tical or Many as we can. "Little things" make life and happiness.

Each individual must deal with the Many out of his own strength, summing his life with others' lives, finally into the One or success. The common man does do that.

END

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